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NEW

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- ▶ Project X: Apple's Secret Weapon?

OCT/96

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David Carson  
Graphic Artist  
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# SUDDENLY THERE'S AN EXPLOSION IN YOUR HEAD.

---

*You* see colors, hear sounds. Something has inexplicably touched you.  
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---

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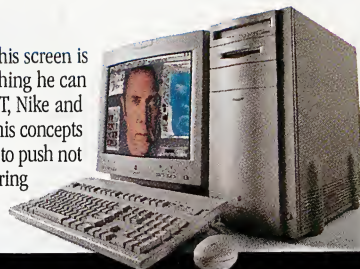
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---

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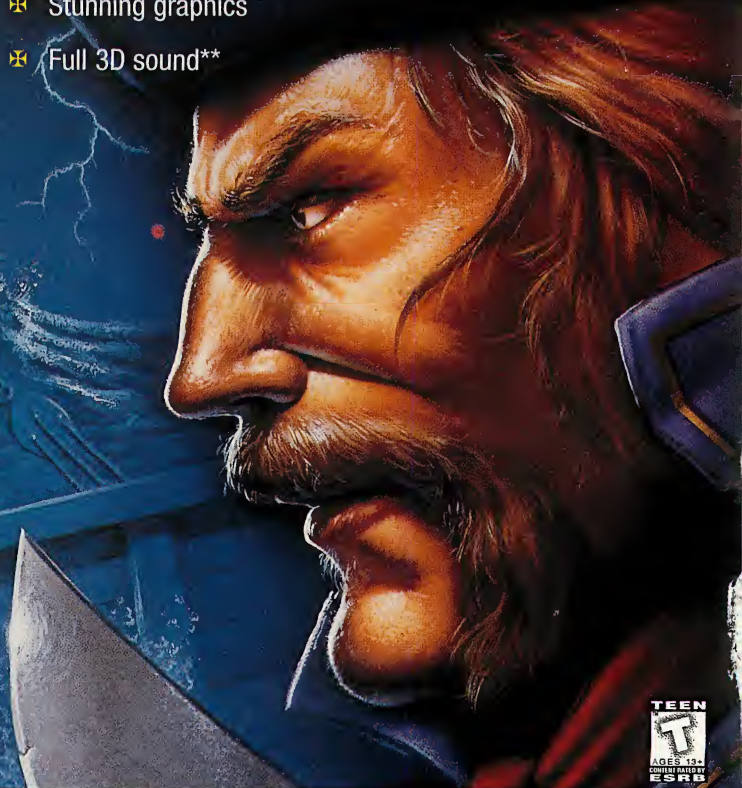
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October 1996

# Mac ADDICT 2

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The Seven-Fold Path to Macintosh Enlightenment

You won't have to depend on someone else to solve your Mac problems if you know these seven truths of Mac troubleshooting. **BY DAVID REYNOLDS**

### 36 The 12-Step System Diet Plan

If your System Folder is tipping the scales at 60MB or more, then maybe it's about time you did some housecleaning. Not only will your System Folder be slimmer, but it'll run better, too. **BY STEVEN ANZOVIN**

### 40 The Top 21 Things That Can Go Wrong With Your Mac

Here are some problems that you're likely to run into at some time or other. We list the symptoms as well as the solutions. **BY RAINES COHEN**

### 44 Too Many \*#!@\$ Systems

Aargh! Apple, Daystar, Power Computing, and Umax have all released new Macs in the last month. There are now 22 models on store shelves—what's a shopper to do? Let us sort out this fall's fashion lineup for you. **BY DAVID REYNOLDS**

## how to

### 76 Customize Icons

Okay, you know how to replace your Mac's standard icons with those created by someone else. Isn't time you created some of your own? Even animated ones!

### 82 Work with HTML

To create a truly individual Web page, you'll need to know a bit about HTML. Here are our top hints on how to work with it efficiently.



Great.  
More big,  
ugly bugs.

Don't let your system run  
amonk. Dash over  
to page 28.



Oh no! Don't make me  
learn HTML! Before  
you jump, check out  
our tips and hints for  
making HTML coding  
a painless procedure.

Cover image produced by Tom White of Tom White.Images, who runs a Radius 81/110, with 148MB of RAM, and a Quadra 840AV, with 48MB of RAM, both with Radius Thunder IV GX video and Photoshop acceleration. Cranking!

If you don't need it,  
you better delete it.



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when a good font goes bad.



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you should buy.





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kill. Ah, the thrill of  
BattleMechs at war.



**Mac**  
**ADDICT**

# every month

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A 200MHz tower Performa, HP DeskWriter, Kai's Power Goo, hot new games, and WebBurst (it lets you create Java applets without programming).

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Well, actually, ask Owen. We answer your deepest, most troubling questions—accurately, too.

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## 112 Shut Down

The bulletin board of the random and the bizarre.

# the disc



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Crammed with 650MB of killer content, The Disc is also a stupendous display of leading-edge multimedia and interactivity. Check out demos, shareware, and software that relate to articles in the magazine.

# online

<http://www.macaddict.com>

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Stop on by to talk and link up with the best Mac resources. While you're there, get a load of Guy Kawasaki's EvangeList page—MacAddict is the official host for the ultimate Mac Booster's Club.



## About EvangeList



Third Party Products



Resources and Help



Advocacy



Market by Market



Other Platforms

Visit Mark's awesome icons  
(and Guy Kawasaki's  
EvangeList page, too)  
on the Web.

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MANAGING EDITOR Judy Lewenthal  
ASSOCIATE EDITORS Nikki Echler, David Reynolds,  
Kathy Tafel, Daniel Drew Turner (reviews)  
CD-ROM: Thomas Hale (director, development),  
Tommy V. King (editor), Jason Michaels (intern)  
ONLINE EDITOR Mark Simmons  
CONTRIBUTING EDITORS Steven Anzovin, Raines  
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ASSISTANT ART DIRECTOR Adam Vanderhoof

## PRODUCTION

PRODUCTION DIRECTOR Richard Lesovoy  
PRODUCTION COORDINATOR Ken Brandow

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REGIONAL AD MANAGER André Lengyel  
REGIONAL AD MANAGER John Singer  
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MARKETPLACE ACCOUNT MANAGER Mary Lachapelle  
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## Imagine Publishing, Inc.

PRESIDENT Chris Anderson  
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CHIEF INFORMATION OFFICER John Montgomery

INTERNATIONAL LICENSING: Robert J. Abramson &  
Associates, Inc., 720 Post Road, Scarsdale, NY 10583

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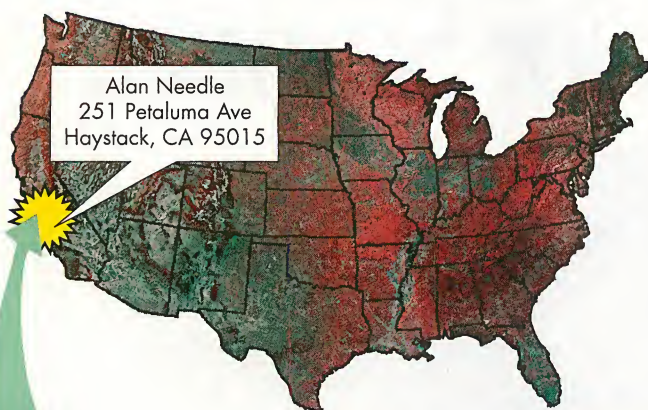
Power Computing: PowerWave 604/150—two of 'em.  
And a PowerCurve 601/120 to boot. And monitors.  
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Bitcakes! We're

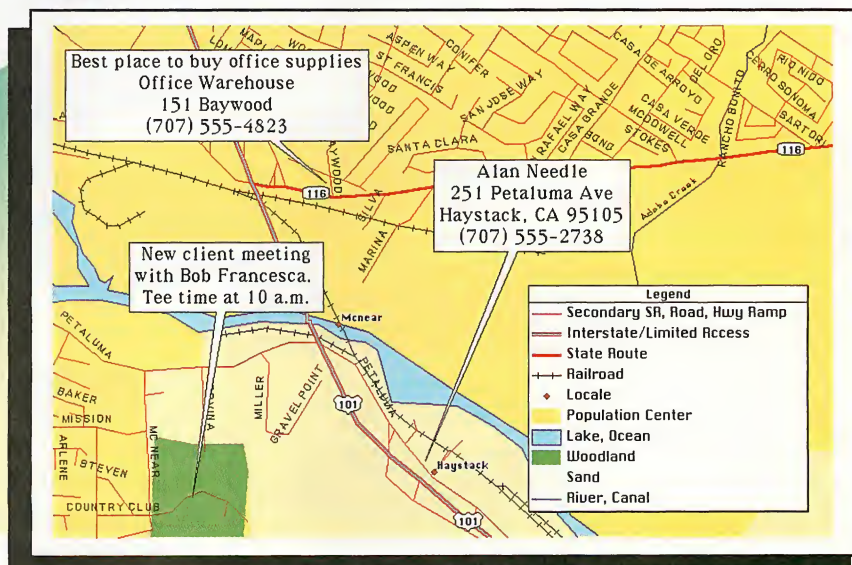


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Mac OS

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# editor's note



editor

Enough electronic mail to make our hair stand on end.

**S**orry. I had planned to write a really insightful column about some new technology for our second issue, but I was distracted earlier today by your letters. I've read all of them—one week into the official on sale date of MacAddict, we've received about 900 letters. (I do, however, wonder if we would have had that many letters if e-mail didn't exist.)

So why have your letters, something many

• **THE BEST VOICEMAIL.** The award goes to the caller who phoned Tom Hale, our CD-ROM genius, got his voicemail, and simply said "Owwwww. Owwwww." and hung up.

• **THE MOST ABSURD PR PITCH.** The woman who called because she'd heard that there was a new magazine called MacAddict and she wanted to know if we'd be interested in reviewing her company's Windows product. Yes, this really happened. (PR, by the way, is short for public relations)

• **THE BEST "GIVE ME, GIVE ME" PLEA** Can you send me some sample issues? Four dozen should do.

• **MOST OBSERVANT READER** Mama Lani, keeper of the Rec.Arts.Bodyart Tattoo FAQ noticed that the body art bookmark in a screen shot on page 45 was obsolete. She didn't provide the correct one, though.

• **THE BEST FAMILY FIGHT** Liza Hillard uses a Mac. Her daughter uses a Mac. Her son uses a Mac. Her husband, however, uses "that other system." When she showed him the photos of the Windows user and the Mac user, he handed the magazine back with only one comment, "A\$\$holes." Liza still wants us to keep sending MacAddict.

## A Funny Thing Happened

magazines foist off to junior editors, taken so much of my attention? One: They make me laugh. They cheer me up. Two: They make me feel as though we are creating this magazine for our best friends to read. Three: They make me think. Let me give you some examples of what I mean.

We've received a lot of letters that made us chuckle or gave us a good guffaw (you'll see several of them in our Letters section this month). But few have been as funny, while still telling us the story of someone's long involvement with the Mac, as this poetic treatise from Robin Kester (Type 11? I keep typing 11 and nothing happens):

*"I'm a Mac addict. I admit it, openly, and without reservation. Even if I needed a reservation, it would be worth waiting for. Mac gives me pleasure each and every day. Not just because the mouse feels smooth and warm in my hand, or because the display lights my way through life. Not even because each time I boot it up it sings to me, no matter what I did to it to have to reboot. o/ you beta you beta you bet o/.*

*I love it because it's a Mac, and it feels good. No nightmares about Windows.*

*No nightmares about win.ini (I never win.inithing ini.ways), config.sys (beck I don't even have a syster). Plug and play. Plug and play. Why can't all computers be this way?*

*I started on a Mac Plus and used it for years... until the day I killed it.*

*Nay, I put it to sleep. (I wonder if they use AfterDark in the Mac afterlife?) That little Mac Plus served me well—it even converted some of my PC-using friends to Macs. Imagine that—a Mac Plus.*

*Of course, I grew into a PowerPC—went big time ya know... pluggin' and playin' with the big boys. WooOooOooO! Yeah, I'm on top of the bill, me and my Mac. And I'm not afraid to say it: I am a Mac addict."*

We get other letters, too, perhaps not as funny, but just as touching. The writers reveal their stories of how they got involved with a Mac, how they use their Mac, and what they love about it. Another letter that I

especially enjoyed came from Joe Kriz. Joe wrote in that he'd been trying to find the iguana Easter egg on his Power Mac 7100 for the last two hours. He told us about all the things he'd tried to make it work, ending with, "All of this just to look at an iguana flag. I must be WACKO!!!!!" No, Joe, you're not wacko. You're just like the rest of us Mac enthusiasts. There's this cool thing and you've just got to find it or try it and you won't get any rest until you do.

Then there are the letters that make me think. Those with suggestions for things to run in the magazine or to do on The Disc or the Web site. There are letters complimenting or complaining about our design. The letters that ask for either more PC bashing or less. These are the letters that make me rethink some of the things that we are doing.

For example, many of you have written in to request that we provide better descriptions of the shareware that we put on The Disc so that you know what, exactly, you're getting before you download. This month's CD includes those descriptions—you'll see this improving even more over time. Others of you have requested that we give you some way to turn off the sound completely. That's a sticky technology problem, but we're making it a high-priority goal to find a solution.

Over time you'll see the magazine, The Disc and the Web site evolve. And we'll make those changes with your comments in mind. So folks, keep those cards and letters coming. We are listening. —Cheryl England



So why have your letters, something many magazines foist off to junior editors, taken so much of my attention?





# letters

Keep those cards and letters coming, folks. It's great to hear from you.

## This Month

*Reading the day's mail is now among our favorite things to do. We love your stories, your comments, your jokes. We only wish we had more space to run all of the wonderful responses. Write to us at: MacAddict, 150 North Hill Drive, Brisbane, CA 94005, Attn: Mac Dudes or send e-mail to [letters@macaddict.com](mailto:letters@macaddict.com).*



**GET ON, GET ACTIVE.** Talk to us and talk to other Mac addicts on the Web site.

## Awww, Shucks

I bought MacAddict yesterday and I stayed up playing with the CD-ROM until my body couldn't sit up any more. Next I got in bed with the magazine and kept reading the articles until my eyes couldn't focus any more. I think I need a support group. My name is Angela and I am a MacAddict Addict. —ANGELA DE JOSEPH

Great, Great, Great, Great, Great. Damn, I just wanted to say GREAT. —CRAIG M. JANISCH

There's always something that comes along that you just have to spend money on, no



when all the PCs are running just fine!  
We need to clean up the Mac image.  
—BILL MORRIS

## MAC LOVE

I am trying to get my Mac-only software development firm off the ground and everybody I talk to says, "Why would you develop software for the Mac now?"

I usually mutter something serious about "reduced competition" or "market niche," but inside I am thinking "Because I don't want to develop for anything else." —ANDREW SPANGLER

If I had to use a WinTel at home I'd quit computing. —DON MCCLELLAND

## NOPE, NOT A CHANCE

The Post Office BROKE MY CD!!! Is it possible for MacAddict to send this addicted Mac user a replacement CD? I'd really like to play with OpenDoc! —BARRY HOUSE

*If you get a broken, busted, warped, or otherwise destroyed CD, or if you suspect your disc has not been mastered correctly, contact our Customer Service department. You'll find contact info on page 89.*

## DETAILS, DETAILS

Shame on you! There's still 45 megs on the CD that needs to be filled! : ) —MARK DESCHAMPS

*Yep, it drives Tom Hale nuts. He says that his hard drive shows a different amount than does a burn of the CD. You wait—we'll have a happy 650MB disc yet.*

In "Stand By Your Mac," when listing the contents of the Mac Addict's backpack, you left out one key tool—a paper clip. Famous the world over. —RICK BURNELL

## JUST TESTING YOU

In the article "Test Yourself," you rate question #3's answer "(c) Open each folder one at a time until you find your file" with 10

matter how much you promised yourself not to, and as I finally put down MacAddict, I thought, "Oh no!" —MATT BURNS

You are absolutely crazy to be starting a Mac Magazine in these dark times for Apple... but I love you for it! —BOB GOURLEY

I think purple and green look hideous together. And I don't think "Phat" is a word. But I'm thrilled that someone has the guts and the vision to launch a new Mac magazine right now. My subscription card is in the mail. Good luck! —STEPHEN FLEMING

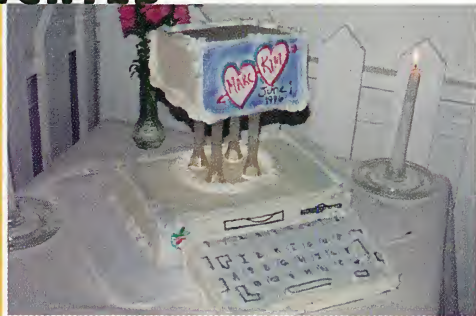
Just picked up your first issue on a drunken whim (nothing personal) and I gotta tell you, I love it!!! —TIMMY MAC (MCINTIRE)

## MAC ADVOCACY

I am sending "Stand By Your Mac" to my brother and his wife because they're planning to buy a (shudder) Wintel PC. I pray to the god of Mac that they will see the light and it's the Macintosh! —ROBERT S. UNDERHILL

When I visit a computer store, and see all of those neglected sad Macs, I go over and hit the restart switch and rebuild the Desktop and zap the PRAM. Then I make sure everything is working properly and that the desktop is nice and neat. It's a pity how Macs are neglected by so many stores, especially

## SIGHTED



## A couple that surfs together...

Marc and Kimberly Bjorkman met in an AOL chat room—Kimberly on a IIsi and Marc on a Quadra 660AV. They quickly moved the romance to IRC to cut down on their skyrocketing AOL fees and eventually connected in real life. When they got married, they modeled their wedding cake after the machine that brought them together. (Check out their full story at <http://www.voicenet.com/~bjorkman/>.) Got a Mac sighting? Send it to us!



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# letters

points, higher than "(b) type Command-F in the Finder." Call me crazy, but I think the Finder's finder (that's possessive, not quintessential) is a heck of a lot faster than searching folders one by one! —TOM NUGENT

*Okay, you're crazy ... but you're also right. We goofed.*

## WHACK ON THE HEAD

The CD is great, although I did need the whack in the back of the head to get more memory. —JOHN W. FARRIS

I have been a video editor for years on PC systems. I have had one too many IRQ conflicts and DAM, I mean DMA problems. I have been pushed over the edge and what better computer to get for digital video than the one that is always on the edge of great things than a Mac. —KEN W. GRAHAM

## OK, WE WON'T

Pay no attention to my colleague from work (an avid IBM fan), Paul, who upon seeing the first issue of your magazine (which I had brought in) exclaimed "Mac Attic! So THAT's where all those computers you like end up..." —JOHN B. JONES

## YOU BEG TO DIFFER

I recently bought Full Tilt! Pinball. I disagree with Mr. Linzmayer that it's the most realistic pinball game available. If the angle of the playfield were the only measuring stick, then I'd agree. But I get much more realistic sounds and gameplay from Eight Ball Deluxe than Full Tilt! I only now play Full Tilt! for variation, not preference. —B.J. MAJOR

In the review of Warcraft: Orcs & Humans, J. Daniel Jones writes, "Later, you'll train

raiders and necrolytes for mounted attacks and the ability to heal the wounded, respectively." Any Warcraft addict knows that it is the human Clerics who heal their human comrades, while the Orc necrolytes only have the ability to raise the dead. —CHRIS (I really REALLY hope I win the Epson PhotoPC digital camera because I need one SO bad for the school where I teach!) BECKWITH

I must defend the use of WriteNow as a word processor. It's still faster than Microsoft Word on my Power Mac 7100, and takes up a lot less space! —PETER GOULD

## SOMETHING DIFFERENT

Hopefully I will be able to stay a reader unless the mother ship comes and picks me up. —LEFTOVR X

... and last but not least, Ms. England is as cute as a bug!!! :-)) —BILL PELLEGRINI

*Yeah, but which bug?*

Now, for something kind of weird. I have long wondered why some magazines have a distinct smell (that I happen to like). I have somewhat concluded that it has to do with the type of ink used in the printing process.

Your magazine smells great!!!! What is it that contributes to the great smell? —STEVE SCIPIONI

*Our Production Director, Richie, rolled his eyes and said he didn't know. We'll try to get you a better answer from our printer. Stay tuned.*

I purchased the premiere issue of MacAddict today. If I subscribe will I get the next 12 issues and not just 11? Probably a stupid question but I have to beg my wife for the money and she wants to know exactly what I will be getting and we have been married 26 years! Thanks. —GARY PREVOST

*Yes, you will get the next 12 issues and discs, not just 11.*

## SAY WHAT?

The writing in MacAddict is immature and ineffective. The words "cool" and "neat" instance the former, the inability to present information according to customary forms of exposition instance the latter. —MICHAEL HAYS

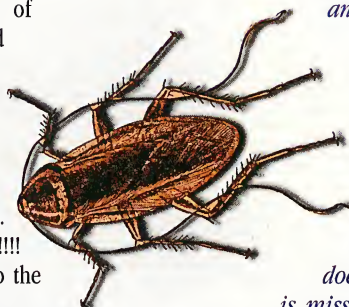
I use a PC with WIN95 at home and use a Power Mac at school. I was disappointed to read all kinds of stories about how the Mac is better, and people bitchin' and complaining about the success of Microsoft. I was really hoping to find a Mac magazine that didn't fill its pages with trash on how the Mac is so much better. Don't get me wrong, I like the Mac, but I like my PC better. Unfortunately the first issue of MacAddict will be my one

and only issue as long as it keeps filling its pages with trash that I don't really care about. —KEITH R. NELSON

## SLIPPED DISCS

When trying to run the demo of Overture, I get a message saying that I need the font "Aloisen." Any idea where I might find it? —TIM BERARD

*We've included the Overture demo again this month, and we've included the Aloisen font in the "Install these" folder that's accessible from the Finder. Put the font in your System Folder and then run the demo.*



I can't get the Bryce 2 demo installer to work! Help me, please! —MARK OLIVER TULEWEIT

*Occasionally, you'll find a demo that doesn't work properly or is missing a piece. We'll post updates, fixes, and links to working demos on our Web site as soon as we can.*

I couldn't find the System Update 2.0 on the CD. I "found it" with Find, but the files seemed to be missing. Is this just my copy or an error in the master? —JAMES CONNOLLY

*Sigh. Apple can be a bit sticky about their licensing agreements, so the only way to access Update 2.0 was through the Director interface (look for the icon at the bottom of the Resources screen). This month you can get the update via the interface or directly from the Finder (it's in the Software Updates folder).*

Like some testosterone-loaded PeeCee game that thinks it's the only thing you'll ever run, the CD resets the Mac's sound volume to its maximum level! —NATE MORRIS

*Director has a glitch that's hard to work around. We're trying to fix it. Meanwhile, we hope you can still enjoy the CD.*

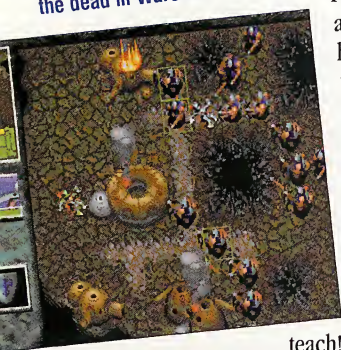
## SIGN OFF

"Best proof that God doesn't exist... Microsoft!" —MICHAEL JARDEEN

"Welcome to Hell. Here's your copy of Windows 95." —BRADLEY YI

STEVE MCINTOSH (I was here first!)

ANY IDIOT KNOWS that Orc necrolytes can only raise the dead in Warcraft.





# Retrieve It! 2.5



## It's two retrievers in one!

Find what you're looking for fast...

### on your hard drive...

Search through hundreds of saved email messages, word processor files, scanned & OCR'd pages, and other documents in seconds.

- Swiftly find documents that mention words you specify in their names *or* content, on any hard drive, zip disk, CD ROM, server, or other volume.
- Lets you Open found items, Peek inside them (to quickly locate and copy specific text), Reveal their location in the Finder, and Drag & Drop them.



**NEW RELEASE!**

"Very well designed,  
superbly documented,  
full featured, and fast."

*MacAddict Magazine, Sept. '96*

### and on the **Internet!**

Search the World Wide Web for web pages, news, stock quotes, email addresses, and online information about almost anything you can imagine.

- Works with your favorite Macintosh Web browser (including Netscape Navigator, Microsoft Internet Explorer, AOL Browser, and NCSA Mosaic) to search the Internet twice as fast as using your web browser directly.
- Uses powerful Internet services like AltaVista, Yahoo, InfoSeek, Four11, and PCQuote to search the Web, online news, classified ads, and Usenet – and look up stock quotes, email addresses, and other online information.
- Lets you jump to web pages by clicking on their URLs in found files. And lets you start email messages (using your web browser or email applications like Claris EMailer and Eudora Pro 3.0) by clicking on email addresses.
- And more!

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fax: 415.428.1784  
phone: 415.562.3457

*Dealer inquiries welcome.*

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800.222.2808

**CYBERIAN Outpost**

800.856.9800  
[www.cybout.com](http://www.cybout.com)



800.613.0622





This is a study about you—a very special person—a new subscriber to MacAddict. Please complete this questionnaire by placing an "X" in the appropriate box ☐ or by writing your answer in the space where applicable. "Your household" refers to all persons living with you regardless of whether or not they are relatives.

## About You and Your Household

1. Are you:
  - ☐ male
  - ☐ female
2. What is your age?
  - ☐ Under 18
  - ☐ 18 - 24
  - ☐ 25 - 35
  - ☐ 36 - 45
  - ☐ 46 - 54
  - ☐ 55 - 64
  - ☐ 65 or over
3. What is your current marital status?
  - ☐ Married
  - ☐ Widowed
  - ☐ Single (Never married)
  - ☐ Separated or divorced
4. What is the highest level of school you have completed or the highest degree you have received?
  - ☐ Less than high school graduate
  - ☐ High school diploma or equivalent
  - ☐ 4 year college degree
  - ☐ Some post graduate study w/o degree
  - ☐ Post grad with degree
5. Which one of the following best describes your present employment status? Please check one answer only.
  - ☐ Employed full-time (30 or more hours per week)
  - ☐ Employed part-time (less than 30 hours per week)
  - ☐ Not employed
6. Do you work at home?
  - ☐ Full-time
  - ☐ Part-time
7. What is your job title or position? (Please be specific. For example: Office Manager, Partner, Nurse, Salesperson, Teacher, Doctor, Lawyer, Vice-President, Machine Operator, Software Engineer, etc.)
   
\_\_\_\_\_

8. What are your most important responsibilities or duties at work? (For example: purchasing equipment, patient care, assembling engines, etc.)  
\_\_\_\_\_

9. Do you have children?  
☐ yes ☐ no

10. If so, how many are in each of the following age groups?

- ☐ 18 years or older
- ☐ 12 - 17 years old
- ☐ 6 - 11 years old
- ☐ 5 years or younger

11. Please place an x in the box that best describes the total combined household income before taxes in 1995. (Please include all income for yourself and all other persons living in your household from all sources.)

- ☐ Under 20,000
- ☐ 20,000 - 29,999
- ☐ 30,000 - 39,999
- ☐ 40,000 - 49,999
- ☐ 50,000 - 59,999
- ☐ 60,000 - 69,999
- ☐ 70,000 - 99,999
- ☐ 100,000+

## Computers

1. Do you or anyone in your household own a Macintosh computer?

- ☐ yes
- ☐ no

2. Is this your first Mac?

- ☐ yes
- ☐ no

2A. If not, how many previous Mac's have you purchased or owned? \_\_\_\_\_

2B. Do you own a Mac compatible? If so, which type? \_\_\_\_\_

3A. Which type(s) of system(s)

does your household own?  
\_\_\_\_\_

3B. For each type owned—how many of each type does your household own?  
\_\_\_\_\_

3C. For each type owned—were you involved in the purchase decision?

- ☐ yes
- ☐ no

3D. Which type(s) of computer does your household plan to purchase in the next 12 months?

- ☐ Performa Series
- ☐ Power Mac
- ☐ PowerBook
- ☐ Mac compatible

4. Do you have a CD-ROM drive? If yes, which speed? \_\_\_\_\_

5. Do you frequently upgrade your system and/or peripherals?

- ☐ yes
- ☐ no

6. Do you plan to install more RAM? If so, how much? \_\_\_\_\_

7. Do you consider yourself a novice, intermediate or advanced user? \_\_\_\_\_

8. How long have you been using a computer? \_\_\_\_\_

9. How many hours per week do you spend on your home system? \_\_\_\_\_

10. Do you influence others' purchasing decisions?

- ☐ yes
- ☐ no

11. How many software titles do you currently own? \_\_\_\_\_

12. How many software titles do you plan to purchase in the next 12 months? \_\_\_\_\_

13. Which are the top three types of software that you purchase? Please rank in order with 1 being the most frequently purchased and 3 being the least frequently purchased.

- ☐ Games/Entertainment
- ☐ Children's Education/Reference
- ☐ Adult Education/Reference
- ☐ Graphics/DTP/Multimedia/Video/Photo
- ☐ Personal Productivity

14. Where do you typically buy software and/or hardware? (Please check all that apply.)

- ☐ Catalog
- ☐ Computer Store/Dealer
- ☐ Consumer Electronics Store
- ☐ Direct from Manufacturer by Phone
- ☐ Internet
- ☐ Mail or Telephone Order
- ☐ Other

15. Do you use the Internet at home?

- ☐ yes
- ☐ no

16. If you use the Internet at home, how do you gain access?  
\_\_\_\_\_

## Geographic Area

Your Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Your Phone Number: \_\_\_\_\_  
\_\_\_\_\_

Thank You!! We appreciate your help. Please mail the completed questionnaire to:

**Imagine Publishing**  
c/o Jana Massey  
150 North Hill Drive  
Brisbane, CA 94005



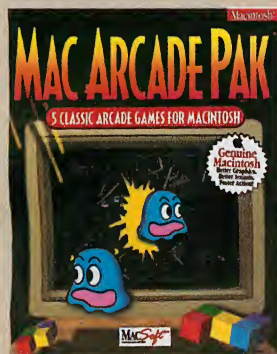
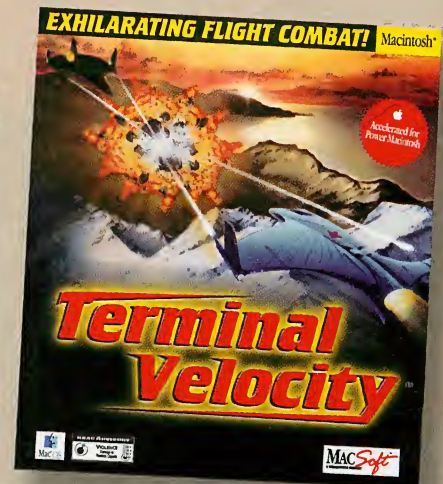
# Great Games Under \$35<sup>00</sup>

## THUNDERING POWER. EXPLOSIVE ACTION.

Terminal Velocity is absolutely the most exhilarating flight game available for the Macintosh. It offers fast 3D texture-mapped graphics, full 360-degree flight movement and 7 weapons of extraordinary destruction. Fight your way through 9 unique planets with an awesome array of spectacular air-to-air and air-to-ground combat action.

**\$34<sup>99</sup>**

(Requires Power Macintosh. CD-ROM only)



### Mac Arcade Pak

Explosive, gut-wrenching arcade action! Includes modern-day versions of Pac-Man™, Tetris™, Asteroids™, Missile Command™ and Movod™.

**\$24<sup>99</sup>**



### Mac Arcade Pak 2

More red hot arcade action with five of the best arcade classics ever! Modern-day versions of Pac-Man™, Gauntlet™, Asteroids™, Galaxian™ and StarCastle™. Includes a sequel to MacWorld 1995 Hall of Fame and a runner-up for Inside Mac Games 1995 Best Arcade Game.

**\$24<sup>99</sup>**

(CD-ROM only)



### Solitaire Game Pack

Clock, Klondike, Golf, Monte Carlo and Patience Solitaire. Great graphics and on-screen help!

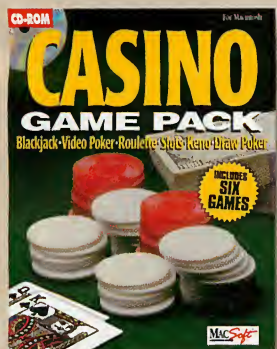
**\$24<sup>99</sup>**



### Absolute Solitaire

We asked dozens of solitaire fanatics to help us design the perfect solitaire package. Absolute Solitaire is what they created. Includes 24 new games and a brand new interface for serious solitaire gameplay.

**\$24<sup>99</sup>**

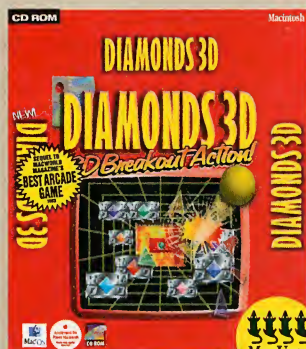


### Casino Game Pack

Quality collection of six popular casino games: Blackjack, Video Poker, Roulette, Slots, Keno and Draw Poker.

**\$24<sup>99</sup>**

(CD-ROM only)

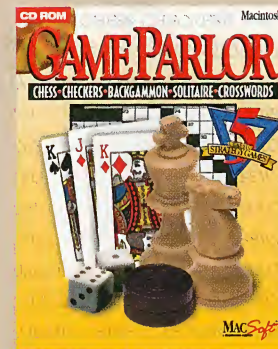


### Diamonds 3D

Breakout in three dimensions! Inside Mac Games calls it "Fun and addictive. The best breakout-style game we've played." The ball doesn't bounce up and down, it comes right at you!

**\$24<sup>99</sup>**

(CD-ROM only)

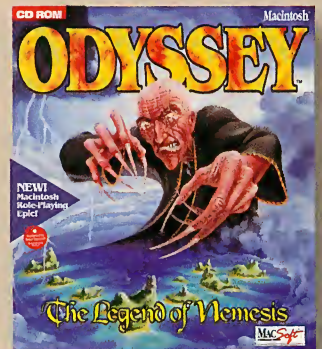


### Game Parlor

Outstanding collection of five popular strategy games: Chess, Checkers, Backgammon, Solitaire, Crosswords.

**\$24<sup>99</sup>**

(CD-ROM only)



### Odyssey: The Legend of Nemesis

The most advanced Macintosh role-playing game ever! Venture into the mystical lands of Odyssey. Discover nine islands of extraordinary adventure, fight epic battles and dwell amongst the fascinating inhabitants.

**\$34<sup>99</sup>**

(CD-ROM only)

Lots more. Call for a free catalog.

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# the disc

Once again, we've packed our CD with way over 600MB of awesome software!



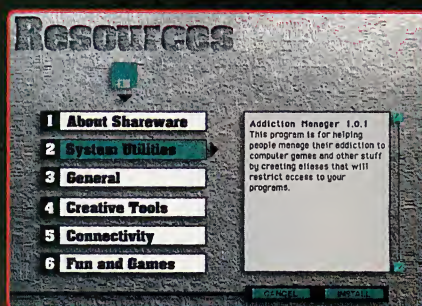
**T**his month we took your feedback to heart and added a host of improvements to The Disc's interface. We enhanced performance, so screens should load more quickly. We added a control strip that's available on every screen. And we made it easier to navigate all-around. As

usual, The Disc is packed with shareware, demos, tutorials, and plenty of amusing surprises for you to discover. Don't be afraid to click everywhere—you won't break the CD-ROM and you'll find a lot of extra goodies. Read on to find out more about this month's highlights and how to use The Disc.



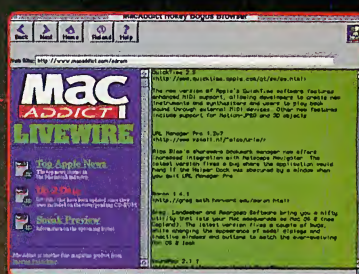
## DEMOS

Move the cursor over the hands to open them. When you see something of interest, click on it to catch a demo. Click on the CD-ROM in the center for even more great demos.



## RESOURCES

In here you'll find tons of helpful software. Open a folder and you'll get a list of files. Click on one and you'll see its description. You can then install the file or return to the list.



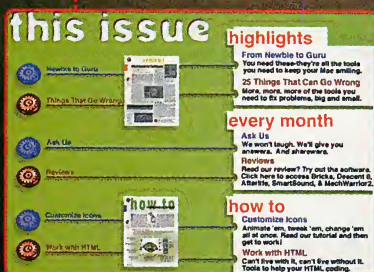
## LIVE WIRE

We've set up a special area on our Web site that is accessible only from The Disc. You'll get news, software updates, and more. Over time, we'll add even more interaction.



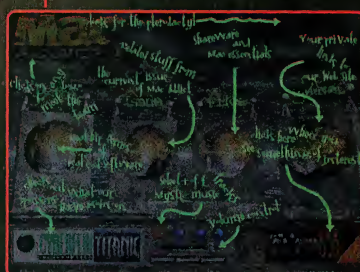
## INDEX

The index has buttons which transport you anywhere on The Disc.



## THIS ISSUE

Here's where you'll find all the software, demos, and tutorials related to articles in the magazine. When you see The Disc icon in the magazine, you'll know it's pointing here.



## HELP ME!

Click on any help button to find out what to do.



## Getting Started

1. When you first pop in The Disc, you'll see this window. ----->
2. If you are running System 7.5.3, you don't need anything in the "Stuff you might need" folder to run The Disc. If you aren't running System 7.5.3, then you may need some of the files in this folder.
3. If you have an older 680x0-based Mac, click on "Start Here (68K)". If you have a newer PowerPC-based Mac click "Start Here (PPC)."
4. If you don't have enough System memory to launch The Disc you can still access and install all of the included software and demos. Just go to the Desktop, open the folders, and browse through them.
5. Clicking on the MacAddict logo won't cause anything to open, but you can move pieces of the logo around, in essence creating your own jigsaw puzzle. Just close the window and the logo returns to normal.



## Requirements

1. To access all of The Disc's features, you'll need 12MB of real RAM if you're running System 7.1 or earlier; 16MB of real RAM if you're running System 7.5 or later.
2. If you don't have enough RAM, you can still access all of the software, demos and tutorials on The Disc from the main folder.
3. You need a 13" monitor that has a resolution of 640 x 480 and 256 colors.

## Our Disc Sponsors

To find immediate information from our sponsors, go the Index (Option-click on any help screen). Or you can wait until you see a message from them in the lower-right hand corner of the main screen. Clicking on the message causes a TV screen to slide down from the top of the page, showcasing more information.

### A-10 CUBA!

214-479-1340

<http://www.parsoft.com>

Guerilla forces have taken control of the beautiful island of Cuba and once again the A-10 Warthogs must suppress the enemies of freedom. A-10 CUBA! adds more action-packed missions and new features to the award-winning A-10 Attack!



### Absolute Zero

800-695-GAME

<http://www.domark.com>

Absolute Zero gives you the best in flight sim technology while immersing you in a sci-fi environment. Engage in 30 missions in three arenas of combat: air, land, and subterranean. Get ready to fight when aliens erupt from the dormant core of your once peaceful mining colony!



### America Online

800-827-6364

<http://www.aol.com>

America Online offers access to the world of online news and Information, interactive magazines, finance, entertainment, e-mail, free software, shopping, and more. With a point and a click, you can explore the vast resources of the Internet. Sign on and receive 15 free hours.

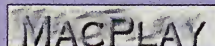


### Berserk II

800-4MACPLAY

<http://www.macplay.com>

Blast your way past enemy robots with powerful new tools, leaving their flaming hulks in your exhaust. Your ultimate goal: to exterminate the alien robot stronghold from the enemy Base and claim total control. It's all-new levels of outrageous destruction!



### F/A-18 Hornet 2.0

214-386-7575

<http://www.graphsim.com>

Take the challenge as F/A-18 Hornet straps you in for the ride of your life. Each of the many scenarios takes you deep into a new conflict in the Middle East. Fly against the newest technology and the best trained pilots the enemies of freedom can produce.

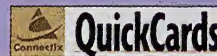


### QuickCards

800-950-5880

<http://www.connectix.com>

QuickCards lets everyone create personalized electronic greeting cards that can be sent on diskette or via e-mail to friends, associates, and family. Unlike traditional paper greeting cards, QuickCards are multimedia productions that play on a Mac- or Windows-based computer.



### Titanic

800-GTE TODAY

<http://www.cyberflix.com>

As a British secret agent aboard the R.M.S. Titanic, your mission could alter this century. Match wits with an intriguing cast of more than 25 interactive characters while exploring the doomed vessel—faithfully reconstructed in stunning 3D detail. Can you rewrite history before time runs out?



### WarBirds

817-424-5638

<http://www.icigames.com>

WarBirds is the first Internet-based flight simulator. Bombs, rockets, and moving carrier groups... Oh my! Think you're a good shot? Target your foe's wing root, and off comes his wing! Join over 100 pilots from every corner of the earth.



## Help, Please!

We'll be the first to admit that we're not perfect. In fact, we've set up a special place on our Web site devoted to our imperfections. If you find a problem with The Disc, stop by <http://www.macaddict.com/cdrom> before you send us e-mail. If the problem is not addressed on the site, then please let us know about it at [letters@macaddict.com](mailto:letters@macaddict.com).

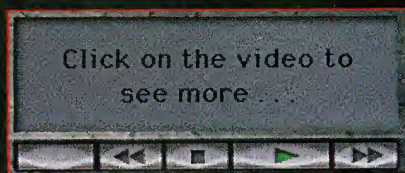
However, we can't take responsibility for others' mistakes. If a program on The Disc other than our main interface crashes, please contact the manufacturer. They'll be able to give you much better technical support. (You can usually find contact information in the accompanying Read Me file.)

Finally, for those of you who couldn't access System 7.5 Update 2.0 because you didn't have enough memory to use The Disc's front end, we've included the program in a Software Updates folder that you can access from the Finder.



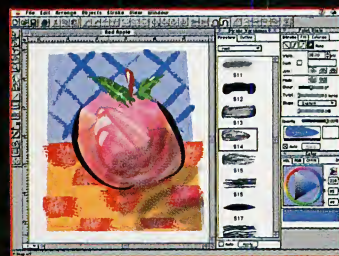
## Things You Need To Know

1. To exit out of any of the videos on the front page, click on the (unmarked) button on the far left.
2. When the cursor turns into a lower case "i" there's something to click on.
3. If you get a "-108 error" message when attempting to run a demo, you don't have enough RAM installed to run the demo and the interface at the same time. Go to the Desktop and access the demo from there.



## Win!Win!Win!

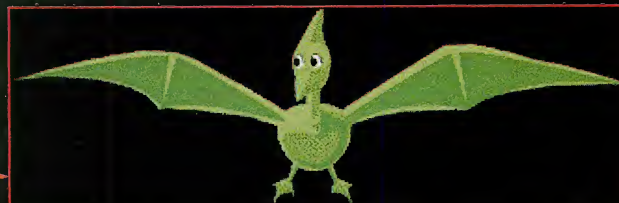
This copy of Fractal Design Expression: a fantastic new illustration tool



Our first contest was so successful, we decided to give you more **BONUS** stuff. (At press time, the contest for the Epson PhotoPC was still open—we'll announce the winner next month.) We're telling you about

the contest in print, but you'll have to use both the CD-ROM and the Web site to win. First, you'll need to find a **BONUS** hotspot on the main screen of The Disc. Click around; eventually this charming pterodactyl will squawk at you. Don't you just want to click on him to see what he does?

Follow the pterodactyl to a screen that looks sort of like a telephone keypad. After you enter the **BONUS** (hint) code on the CD-ROM, your Mac coughs up another code to enter on the MacAddict Web site. By filling out a form on the Web site, you'll be entered into our drawing to win a copy of this **BONUS** software.



## Demos

Demos give you a taste of the products you've read about. Run them from either The Disc's front-end or from the Finder directly. Some demos are self-running videos while others allow you to actually use the product. Those that let you use the product are generally "crippled" in some way. For example, you won't be able to access all of the program's functions or they will expire after a certain amount of time (usually about a month).

### 1. Warcraft II: Tides of Darkness



This awesome sequel to Blizzard's Orcs & Humans will have you screaming for more. (It should be out in September or October.) Play either the orcs or the humans in a few campaigns. While the demo betrays its PC roots—"Exit program"—the game uses Apple's

Game Sprockets technology to bring 3D sound and speech recognition (for entering cheat codes) to Power Macs. Be sure to click on each of the different buildings and characters to hear what they have to say.

The peasants are especially dim-witted! (You'll find this demo in the demo folder on the CD.)

### 2. Muppet Treasure Island



In Activision's latest game for kids and kid-like adults, you'll need to

splat the buccaneers with pies to earn money to buy clothes. Don't hit the customers or you'll lose money.



System Folder before you try out this great music program.

### 4. Project X

Here's the latest from Apple Research Labs. Using Project X, you can fly through 3D space to navigate Web sites. To find out if Project X can do more than just give great demo, read our story

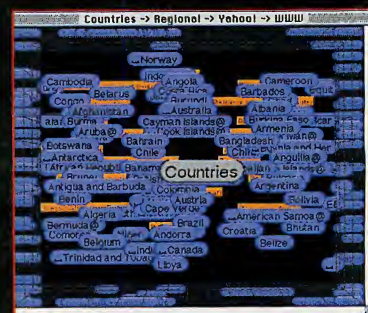
in this month's Get Info. Note: Project X will not work directly from the CD. You will need to copy it to your hard drive.

## For Control Freaks

1. Use the thumb on the left to toggle the strip on and off.
2. Back takes you to the previous screen.
3. Menu takes you to the Main (first) screen.
4. "i" takes you to the index.
5. "Q" quits the CD.
6. The speaker slider controls volume. This month the volume stays the same as you've set it, no matter where you go on The Disc.

### 3. Overture

Last month we goofed! To use the Opcode Overture demo, you needed a font we didn't give you. This month we put that font in the "Install these in your System Folder only if you need them" folder. Open up the Aloisen font folder and drag the contents onto your

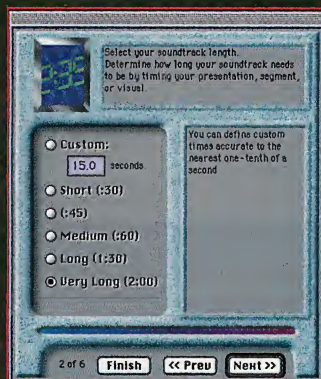




## 5. SmartSound

SmartSound, from Sonic Desktop Software, helps you compose masterpieces—without the childhood trauma of parentally imposed piano, violin, and accordian lessons—

for everything from home movies to self-indulgent amusement. Using the demo, we created a MacAddict original background piece in about two minutes.



1. After choosing Maestro (as opposed to Editor) we decided how long the piece should be.

2. The demo version only let us pick one theme, but at least we knew exactly what we were getting.

3. When you click finish, you can listen to the piece over and over, or tweak it in the editor.

## More Demos

- AfterLife
- Bonkheads
- Bricks
- Myrmidon
- Shockwave Assault
- WebQuick
- Zork Nemesis
- Kai's Power Goo
- Descent II

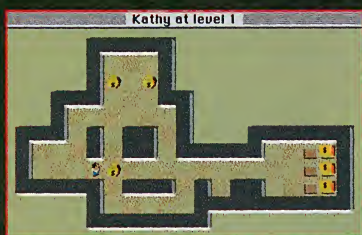
## Files

We've created installers for all of the programs in the Files area. If you decide you don't want something you've installed, run an uninstaller to get rid of it. One caveat—we can only track the things we put in your System Folder. So for system utilities like Aaron, we can delete the extension, but not the items that exist outside the System Folder. That said, to run the uninstaller, open an installer from the front end or from the Finder and hold down the Option key—you'll see the uninstall options.

## Fun and Games

### MacSokoban

MacSokoban is a great little strategy game. It's all brain and no brawn as you manipulate the boxes into their proper places. Just don't get suck with two boxes along a wall!



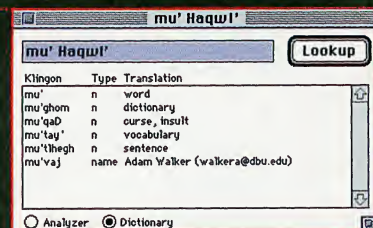
### Property

Property is a tame game where you gather deeds to properties along a four-sided board. Sound familiar? It is, except this game was created by a Brit, so the street names are all screwy.



### mu' Haqwl'

Curious what Worf mutters under his breath when Sisko won't fight? Look it up in mu' Haqwl's Klingon dictionary.



## System Utilities

### ShrinkWrap

Curious what to do with disk "images?" Use ShrinkWrap to mount image files on the Desktop. The System will be fooled into thinking they're the original floppy disks. To mount image files, simply drag and drop the image file icons onto the ShrinkWrap icon.

## General

### Heritage

Heritage will help you track your roots. It even imports and exports GEDCOM files. You can also imbed digitized photographs in your family tree.

## Connectivity

### NetPresenz

Got a 24-hour Internet connection? Set up a Web and FTPp server in no time with Peter Lewis' NetPresenz. The program uses your File Sharing preferences to allow the FTP connections, so it's a piece of cake to learn.





## the disc



*Dear Lord, please strike him and his  
friggin' clarinet with the biggest  
lightning bolt you can muster. Amen.*



*The lightning bolt Carol asked for never came. So she diffused her  
anger by playing ABUSE and filling Leon's instrument with lard.*



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To get your **ABUSE**, call 1-800-295-0060, or visit [www.bungie.com](http://www.bungie.com). ©1996, Crack dot Com. Abuse and Crack dot Com are trademarks of Crack dot Com. Bungie is a trademark of Bungie Software Products Corporation. All rights reserved.



ABUSE  
FOR MACINTOSH



Navigate the Web  
in a sort of 3D space.



site's structure. To date, only a handful of sites have such files and these are neither comprehensive nor regularly updated. Given the number of files that compose a typical Web site, the rate at which they change, and the paucity of MCF authoring tools, it's unlikely that most Webmasters will create the indexes—and those that do will probably supply only a basic outline.

So, how do you create an MCF directory of a Web site? Editing MCF files by hand is tedious work: it makes HTML authoring seem fun. If you have a Mac-based Web server, you can drag your folder structure into Project X, export this hierarchy as an MCF file and use it as a starting point. More promisingly, Geoff King of the Australian Legal Information Institute is working on a CGI that automatically generates a current MCF directory that with some refinement will enable sites to support Project X with no extra effort.

The second problem lies in navigation. Browsing a Web site with Project X is often quicker and more elegant than clicking through page after page in a Web browser, but when you reach a page like Yahoo's "Countries" directory and two hundred floating boxes pop up... well, good luck finding Sri Lanka. Of course, overcrowded areas could be reworked for easier Project X navigation, but this would entail extra work for the creator of the MCF file.

And there's the rub. Just as a Web site requires regular maintenance and navigation-friendly design, so too do the MCF files. To become a useful tool, Project X needs to do more of the work. —MS

# Watch

Last month, we put a Power Computing PowerWave 604/150 into the hands of long-time PC user, James Fallows (formerly of The Atlantic Monthly and recently promoted to Editor of U.S. News & World Report). Our goal: to make him give up PCs forever.



So how's it going? We're a bit behind schedule since Jim's promotion has kept him a tad busy (200 staffers all needing help NOW!). Here's what he has to say so far: "I was so accustomed to IRQ conflicts, memory-management headaches, differing SCSI addresses, and other Windows delights that I dreaded setting up the Mac. You'll snicker to know that my reaction was 'Hey, no problem.' The biggest surprise about the programs and the OS is how hard the Windows world has tried to copy their basics, without yet emulating the 'fit and finish' that makes the Mac easy."

Is it all a bed of roses? No. Jim has yet to do The True Test: seeing if the Mac can handle the fancy data-sorting and idea-generating tricks he has come to rely upon with Windows software.

**E**ven some of the more jaded types here at MacAddict were wowed by a demo of Apple's wizzy new Project X: it let us zoom through a 3D representation of cyberspace. But Project X is no longer just a humble technology project: It's now a key part of Apple's Internet strategy, according to Larry Tesler, VP of Internet Platforms. So it's time to take a hard look at what lies behind the demo.

The prototype application includes a portion of the Yahoo Web directory in the Meta-Content Format (MCF) used by Project X. Launch the application, and you'll find yourself in a sort-of-three-dimensional space, zooming about the Yahoo hierarchy with just a click of the mouse. The hierarchy can also be browsed via a less-exotic, Finder-style outline. Either way, when you find the page you're looking for, a double-click will open it in your Web browser. An upcoming Netscape plugin promises to make Project X navigation more integral with your Web-browsing experience.



Project X's universe is not, of course, limited to the Yahoo directory. You can drag and drop new MCF files into the application to expand its horizons, or drag folders from your desktop to add their contents to the Project X world. One of the selling points of Project X is that you can meld documents from your desktop and from the Internet into a personalized information space, which can be manipulated at your whim and then exported as an MCF file for use by other Project X buffs.

Okay, so that sounds like fun. However, Project X faces a couple of major obstacles.

The first problem lies in its dependence on MCF files. Rather than analyzing the structure of Web sites on the fly, Project X requires the site's creator to supply an MCF file that represents the



# Cyberdog

## Faster, Slimmer, Better



THE NEWEST CYBERDOG

**A**s part of its Internet strategy, Apple has committed to aggressively supporting Cyberdog, the company's means of integrating the Internet into documents. In addition to public beta tests (when was the last time you downloaded a beta version of the next system software?), Apple is updating Cyberdog on a more frequent schedule than

its previous software. If Apple can follow through on the rest of its Internet strategy as well as it has with Cyberdog, it might actually beat Microsoft to the land of true OS/Internet integration.

Version 1.1 includes changes to the OpenDoc-ness of Cyberdog. There's an application icon which launches Cyberdog into its own process—no more “the Cyberdog mail system is in use by another document” messages. And gone is the disorienting “Document” menu; it's replaced by a more standard File menu with a Quit item.

A host of other new features improves Cyberdog's usability. While version 1.0 was a great technology demonstration, this version makes us actually want to use the product. Cyberdog has been optimized for faster performance. A new Windows menu item tracks open windows and provides easy access to commonly used documents like the log and notebook. And you can finally drag to select items in a list.

Besides these necessary improvements, the new dog has some downright cool features. It supports the Get URL Apple Event, so you can set up Cyberdog as your helper app for everything (before it would just open up the first notebook and do nothing). To aid in

## ASK A Silly Question



A FIREFLY? But why?

**Q:** What made you choose Flash the FireFly as the host of “Let's Pretend! Space is our Playground!”?

**A:** That's a good question. We wanted to do something different and we looked around and saw that ‘gee, nobody is doing fireflies.’ The same thing with the ants. It's something different. And the firefly has a lot of dimensions... It's multicultural and gender-neutral. It's a great way to bring children into the creative world without any hang-ups.

—James Cooper, Vice President of Ringling Multimedia

get info

your transition, Cyberdog will import your Netscape bookmark files and your Eudora mailboxes and nicknames files. And something truly mind-bending-Appletalk servers are now CyberItems. This means you can embed an Appletalk network browser inside a Web browser since Cyberdog now supports the embed tag. You can click on a link and Cyberdog will open the server in the Finder.

Cyberdog is not the lumbering Saint Bernard it was in version 1.0, but neither is it yet a greyhound. We'd like to see the browser support text alignment and frames, and have a horizontal scrollbar. Aside from these niggling details, version 1.1 is a well-made, substantive upgrade. As reflected in the new spaniel mascot, Cyberdog is shaping up to be an energetic best friend. —KT



LAST MONTH'S CYBERDOG

## 8X CD-ROM DRIVES

### Faster, But More Expensive

**L**ike it or not, CD-ROM drive rotation speed (how fast it spins the disc) has been cranked yet again, this time to 8X. And, yet again, the higher speed CD-ROM drives deliver marginally better speed than their predecessors, 4X drives, in some activities and little or no boost in others. Whether or not they're fast (or necessary), they are standard equipment in the latest Macs and as external SCSI drives. Since fear of obsolescence drives much of the computer market,

you may be wondering “Will I be left in the metaphoric Dark Ages if I don't buy an 8X drive?”

No, you won't. Although 8X drives are the new de facto Mac standard, they aren't necessary. Currently, there is no software that requires 8X speed, and that isn't likely to happen overnight. By the time it does (if it ever does), DVD should be on the scene and the whole disc scene will change anyway.

If you buy a new Mac with an 8X drive, congratulations. You're on the leading edge of

the CD-ROM curve, and it won't hurt you a bit to have that bit of extra speed. However, if you're in the market for a CD-ROM drive and you don't want to buy a whole new Mac to go around it, purchase a 4X drive. While an 8X drive will cost about twice as much as a 4X drive (around \$300 compared to around \$150), you won't get a commensurate speed increase for your money, and you won't be able to do anything you couldn't with a 4X drive. (If you're really in the market for a bargain, check out 2X and 3X drives for under \$100.) Use the \$150 you save to buy a few CD-ROMs to play in that brand new 4X box. You'll be glad you did. —DR



Frank Kozik

## Now that's the Spirit!

We've already made desktop patterns, QuickMail forms and color printouts of Power Computing's promotion for its faster-than-a-Pentium, 225MHz PowerTower Pro. Find it at their Web site: <http://www.powercc.com>. (Oh, and by the way, that's not Sluggo. Nope, Sluggo is heavily copyrighted. It's Jobi.)



# NEW

# get info

## SUPER STANDARDS

**T**he PowerPC Platform (formerly known as CHRP, or Common Hardware Reference Platform) is touted as the no-fault divorce for the computer world. Supposedly, you'll see computers based on the PPCP specifications from a variety of vendors next year, all running the Mac OS. Like marriage and divorce, though, PPCP is fraught with enticing fantasies that hide more mundane realities. Here are a few:

**Fantasy:** PPCP computers will be cheaper because manufacturers will be able to use less-expensive components.

**Fact:** PPCP computers may be a bit cheaper for this reason, but don't count on plummeting prices. Savings will most likely be less than \$100.

**Fantasy:** PPCP computers will let you switch between operating systems on a whim.

**Fact:** While this is true, there's a deeper level to this. Who wants to learn more than one operating system? Although many know the Mac OS and Windows NT, Sun's Solaris is a pretty specialized operating system, that relatively few people use. Most PPCP users will still start up with one—maybe two—operating systems, not six.

**Fantasy:** PPCP computers are a hardware innovation.

**Fact:** PPCP computers are standards and marketing innovations. PPCP hardware isn't difficult to assemble. And PPCP specs are based on current components. For example, PPCP-based computers should be able to use peripherals designed for the PC world, and while that should make many, especially serious gamers, happy, it's hardly an innovation. Computer manufacturers—Power Computing among them—say they will easily have hardware ready by the time the PPCP-compatible version of System 7.5.3 ships sometime early in 1997. On the other hand, PPCP manufacturers do say that, because the standards allow for different internal components, hardware built on the PPCP standard may be faster than non-PPCP computers. As far as marketing goes, “cross-platform” and “multiple operating systems” sound great on a press release, and PPCP has those words aplenty.

**Fantasy:** PPCP computers are nothing but vapor.

**Fact:** Prototype PPCP computers have already been shown booting System 7.5.3 and Windows NT, and observers say they're fast. —DR

get info

FOR THE MAC

### RAM DOUBLER 2.0

(Connectix Corporation: 800-950-5880; <http://www.connectix.com>; \$99 9 (srp); ships August 7)

The Mac's best virtual up-grade is now even better. RAM Doubler 2 tricks your Mac into thinking it has up to three times as much RAM as it does. You'll need a 68030 or better processor and 8MB of RAM.

### ACROBAT 3.0

(Adobe: 800-521-1976; <http://www.adobe.com>; \$295 (srp); ships August)

Acrobat performs some snappy new tricks: Web surfers can view PDF files directly in browsers, look at documents a page at a time, perform OCR, do full-text searches of PDF documents, create and use forms with text fields and checkboxes, and use buttons and hotspots to control embedded movies or sound. All this, and support for Kanji, too.

### STUDIOPRO 2.0

(Strata: 800-787-2823; <http://www.strata3d.com>; \$1495 (srp); ships late September)

StudioPro has been rewritten: you can create images without so much sweat. All modeling now happens in the main modeling window; modeling controls have been improved and include new camera controls, a grid, nudge keys, Bezier curve and polygonal-based modeling features. StudioPro offers new animation techniques, a faster rendering engine, plug-in support, and PAL video output capabilities. It also supports VRML and QuickTime 2.5.

### DETAILER

(Fractal Design: 608-688-5300;

<http://www.fractal.com>; \$449 (srp); ships September)

With Detailer, you use Painter's natural media tools (including the Image Hose) to paint directly onto 3D objects. You can create texture maps and bump maps and apply them to models. You can even make images glow and reflect light. Create models within Detailer using simple primitives or import 3DMF, Ray Dream Studio and Ray Dream Designer models. —DR and CE

## MACINTOSH MYSTERY

### Win this great software!



**W**e've created a fiendishly clever Mac-related problem; it's up to you to supply the solution. Send your answer to: [www.macaddict.com/contest](http://www.macaddict.com/contest) or snailmail it to us and we'll pick one lucky entrant among those who have the right solution (or something vaguely close if no one can guess) to win a copy of Symantec's Norton Utilities, Symantec's SAM and Casady & Greene's Conflict Catcher. Here's the dilemma:

Arthur, a naturalist who tracks the fur-licking habits of the rare, gray-spotted ocelomarmot, lives among the redwoods in a cabin with an unreliable wood stove. Because of the cool, moist climate and because the

area doesn't get much sunlight, Arthur spends a lot of his time indoors. In his cabin, he has a Centris 650 and several hundred floppy disks on which he has collected his fur-licking data.

After a particularly damp winter, Arthur goes to look at his data from the last three years. The deadline for a national grant for ocelomarmots is looming, and he needs to complete his report. When he inserts the first floppy into his Centris, fear sets in: the disk is unreadable.

He ejects the disk, then tries another. It, too, is damaged. He fires up Norton Utilities, but it can't read either disk. So he tries a few more. All of his old data disks seem to be damaged!

Take home SAM, Conflict Catcher, and Norton Utilities

Thinking that it might be the age of the disks, he inserts a disk that he used last week. Now it, too, seems to be damaged. “Ah ha,” Arthur thinks. “It must be my floppy drive.” It isn't—a brand-new disk worked. In a fit of despair at the end to his ocelomarmot watching days, Arthur breaks open an old, damaged disk. There inside, he discovers the culprit behind the global disk failure. What does Arthur find inside the disk? The answer next month. —DR





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## Virtual Memory Use It or Lose It

**A**s husky programs greedily demand more and more RAM, you may be tempted to activate virtual memory for an extra RAM boost. But if you're not sure how much virtual storage is enough, or whether you should use it at all, you're not alone. (Turning on virtual memory makes your Mac use empty hard drive space as though it were a RAM chip.)

No two opinions on virtual memory are alike. Read your user's manual and you'll find that you should only have virtual memory on when you're short on RAM and then you should quickly turn it off, or suffer slower overall performance. Call Apple public relations and they'll tell you to keep virtual memory running at all times, except when doing high-end graphics. Call Apple tech support and a guy named Greg will tell you to keep virtual memory on at all times. Power Mac native programs will boast a 30 percent speed increase, he claims. Of course, he then admits that he needs to "brush up on the subject."

So what's the deal?

The best advice is to take advantage of the current rock-bottom RAM prices and beef up your memory. After all, there is no substitute for the real thing. But if you can't afford real memory (or don't want to use Connectix's RAM Doubler), virtual memory can help you out of a RAM pinch.

Your user's manual is on the mark when it advises against using virtual memory full time. Having virtual memory on will drag you down since your Mac will waste time swapping data to and from your hard disk. If you truly need extra RAM, then limit virtual memory to a maximum setting of twice the size of your installed RAM. Any more than that and your Mac will begin excessively moving memory around which, again, will decrease speed. For best performance, set virtual memory to the minimum setting—1MB above your physical RAM.

Here's what it boils down to: turn on virtual memory when you're short on RAM, but don't leave it on all the time. Using virtual memory on a case-per-case basis won't slow your daily work and will forestall potential conflicts with high-end graphics programs. Remember nothing is bad in moderation, not even virtual memory. —NE

The best advice?

Take advantage of low RAM prices.

### Free Stuff

Apple doesn't give away Macs, but it does offer free propaganda. Here's what you can get (call 800-825-2145):

- "Mac or Windows?" video (L01760A)
- "Why Do People Prefer Macintosh?" (L01749A)
- "50 Mac Advantages" brochure (L00440C)
- "Why Macintosh?" brochure (L01667A)

## One Up Whoopi

Reach Out and Touch Over the Internet.

**A**re you sick of Whoopi, Candice and Ed O'Neill telling you who offers the best phone service?

Frustrated by telemarketers who believe the world arises at 9 a.m. on Saturdays in eager anticipation of special long-distance offers? How'd you like to talk as long as you'd like to anyone in the world and not pay a single red dime a minute to any long distance company? With a microphone-equipped Mac, you can exact revenge on the long-distance leaders, at least for now.

Internet phones, such as VocalTec's Internet Phone, and Third Planet Publishing's ePhone (formerly NetPhone and soon to be DigiPhone for Macintosh), digitize your voice so it becomes just another data type, happily bounding down the information highway until it is decoded at the other end and played. Many of the programs are half-duplex: participants must take turns talking. Some, though, allow both people to talk at the same time, aka full duplex. Apple has even become part of the Net telephony game via its QuickTime Conferencing software, which allows audio as well as video conversations to occur over the Net.

There are a few caveats. First, because of the compression, conversations sound like they're coming in through the speaker of an AM radio, although improvements in bandwidth and compression quality will soon likely create digital conversations that rival telephone quality. Second, you must be connected to the Internet in order for the phone software to be in a "receive mode." If you're not connected, there's no way to activate the phone call. You can keep an address book of people you want to call. If they're not there, some software will give you the option to record a "voice

mail" message. The biggest problem, however, is finding who has what system and when they're connected. While there are several Net telephony products, none of them talk to each other, and few work between Macs and PCs (VocalTec's

Talk as long as you'd like to anyone in the world and don't pay a single red dime a minute to any phone company.

Internet Phone is a noteworthy exception; more are on the way). Some Internet directory companies like Four11 or WhoWhere may step into this role, or it may be addressed in the future by new protocols.

So, if that's the state of the art today, what does tomorrow hold? In July, Internet service provider IDT announced that it would be possible for Net

users to place calls to regular telephone users through its Net2Phone service. There are two catches, though. First, you have to also use IDT as your long-distance service provider. Second, while the rates for such calls are lower than what you might pay for an average long-distance call, they're higher than those for a computer-to-computer call placed over the Internet.

What about placing an "Internet phone call" from a standard telephone? At least one Net telephony vendor is working on it, and on using the Internet for telephone-to-telephone calls. Phone company reactions are mixed. Some are trying to introduce legislation to outlaw or regulate Internet telephony. Others, like NYNEX, are heavily investing in Internet telephony companies like VDO, an Israeli company that delivers video over the Internet.

Should you download, install, set up, and use Internet phone software? The audio is quite decipherable but below telephone quality and speaking into your Mac's mike may seem awkward. Connections are easily lost, so it's not as reliable as a regular phone call. Using the Internet as a phone is still not viable for everyday use, but it is feasible if you make advance preparations. —Ross Scott Rubin



the hero?



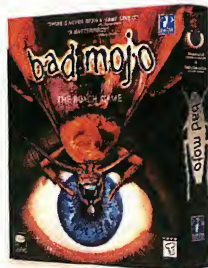
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# cravings

Six sweet indulgences to tempt your digital fantasies.

## PointCast Network

PointCast

InfoSluts rejoice! It's a screensaver! It's a custom information delivery service! (But it won't wash your car.) It's PointCast Network, and it may be the future of news on the Internet. The PointCast Network, using PointCast client software (soon to be available in beta for Mac users), lets you choose the information you want (selecting from Reuters news, a Standard and Poor's Comstock ticker, AccuWeather forecasts, the SportsTicker, and online versions of Time, People and Money magazines), and when to have it

delivered to your Mac. PointCast Network uses IP

A LITTLE SOMETHING FOR THE INFOJUNKIE IN ALL OF US.

addresses, and will work with America Online, CompuServe and Prodigy. The second best thing about PointCast is that, through SmartScreen, PointCast Network can be used as a screensaver, using your computer's down time to keep you up-to-date. The best part is, since PointCast Network is supported by advertisers, it's free. A beta Macintosh version of the PointCast Network viewer should be available for download at <http://www.pointcast.com>. To find out more about PointCast, call 800-586-4733.



## Planet ISDN GeoPort Adapter

SAGEM



If you've about HAD IT with people incessantly teasing you about your 14.4 GeoPort modem speed and are contemplating the purchase of a rifle (not that we would advocate fury... Sit back, take a deep breath and count to 100), take the ISDN plunge instead, with the SAGEM Planet ISDN GeoPort Adapter. With this hummin' gadget

hooked up to your Mac's GeoPort (at a list price of \$495), you'll be able to get up to 128Kbps connections—more than twice as fast as other external ISDN devices hooked up to the Mac's serial port. Prepare yourself for some fast surfing, video conferencing, and (gasp!) being able to talk on your phone while using the modem at the same time on the same ISDN line. Cool, huh? For more information, call 408-446-8690 or use your non-GeoPort-ISDN connection to surf to <http://www.satusa.com>.

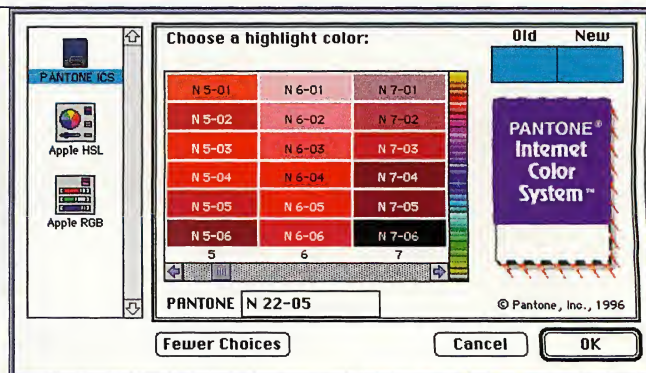
## ColorWeb

Pantone

Although you may question the use of purple and orange on an olive-green background in a Web page, at least you'll sleep easy knowing it looks the same on both a Mac and a PC, thanks to ColorWeb by Pantone. ColorWeb uses the 216 colors that display on both platforms without dithering—they pay

STEADY COLOR ACROSS THE WEB, ONLY FROM PANTONE.

people to find these things out—and makes a color picker out of those colors. Thus, for only \$29.95, you can paint in nearly 8-bit color and have the peace of mind that comes with knowing that your results will be consistent across the Web. To gain your piece of peace, go to <http://www.pantone.com> or call 201-935-5500.



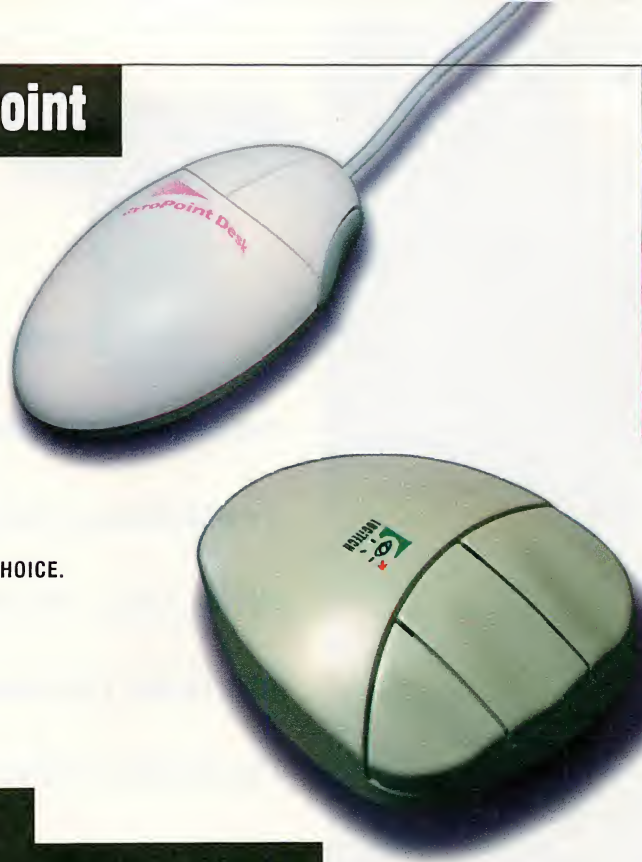


# Cordless MouseMan / GyroPoint

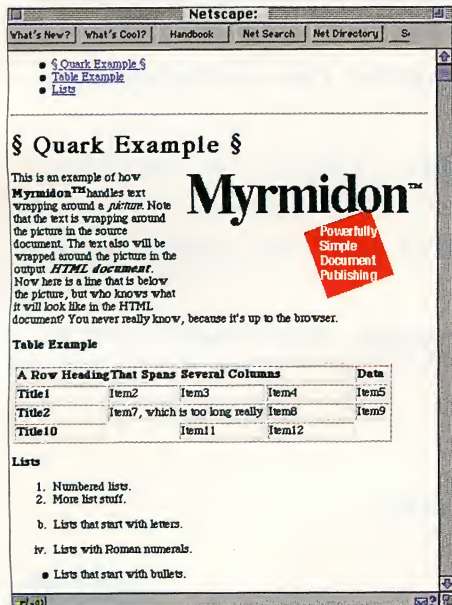
LogiTech / Gyration

A brief factory can't attract a pair of mice this nice. For those interested in a freestyle approach to mousing, LogiTech (510-795-8500 or <http://www.logitech.com>) has introduced the Cordless MouseMan with a suggested retail price of \$79.95. This three-button marvel comes in two parts: a receiver that plugs into the ADB port, and a mouse (no wires) that works up to six feet from the receiver (we've had great results with longer distances, but then the screen gets pretty hard to read). For those who want to free themselves from the shackles of the mousepad and don't mind the cord, Gyration (800-316-5432 or <http://www.gyropoint.com>) presents the GyroPoint mouse. When on the desktop, this nifty two-button mouse works like any other, but when you lift it off the surface, a tiny gyroscope takes over, turning small wrist motions into mouse movements. For \$149 (srp), you, too, can take off from the desktop without special software—the GyroPoint mouse uses the Mac OS mouse driver.

**TAILLESS OR PADLESS: THIS PAIR PROMOTES CHOICE.**



cravings



## Myrmidon

Terry Morse Software

Elegance and simplicity have long

been words associated with the Macintosh way of doing things. Unfortunately, those words rarely apply to authoring Web pages, what with HTML, graphics file formats, and the like. Myrmidon (and, no, we can't pronounce it either—although we think we spelled it right), by Terry Morse Software, adds the touch of Mac class to

**COMMAND-P TURNS A QUARKXPRESS**

Web page creation (for only \$39.95),

**DOCUMENT INTO AN HTML PAGE. REALLY.**

especially for those who have existing documents that they want to publish on the Web. Myrmidon acts like a printer. Simply print your document, and Myrmidon goes to work, converting it into an HTML document, complete with tables. Myrmidon has some other nifty abilities, including the ability to send e-mail from within any application through Apple Events. To find out more, call 415-858-1017, or download a demo of Myrmidon from <http://www.terrymorse.com>.



FIND A DEMO of Myrmidon on The Disc.



## Zón

Perception Systems

Do a little dance, make a little love, control your game tonight. It's possible with the Zón game controller. This cute little polyhedron (4" x 4") watches you from its resting place, seeing movement in a cone-shaped area. All you have to do is move in that cone, and the

**PYRAMID POWER KEEPS AN EYE ON YOUR EVERY GAMING MOVE.**

Zón interprets your movement, letting you play fighting games with actual punches and kicks, or control an A-10 with a finger movement. For \$99, you can have a machine that watches your every move and does something about it. To enter the Zón, call 818-907-0575 or e-mail [info@percepsys.com](mailto:info@percepsys.com).







## SOFTWARE THAT HELPS

**F**inding true Macintosh enlightenment isn't a journey to take alone. You'll need to carry these utilities with you. (To help, we've included them on The Disc.) Each set of utilities corresponds to a path that is outlined in the article.

**Section 1:****Backup:**

- BU Reminder
- SoftBackup II
- SimpleBackup
- SmartSaver
- SwitchBack
- Synk

**Maintenance:**

- TechTool

**Section 3:****Cache:**

- Cache-22
- CacheHit

**RAM:**

- Fuel Level
- Memory Minder
- OptiMem Demo
- RAM Check
- ramBunctious

**System Heap:**

- FixHeap
- Mac OS Purge
- MemMapper

**Section 4:**

- Conflict Catcher Demo
- Extensions List
- Symbionts

**Section 5:**

- MacsBug
- Terminator Strip

**Section 6:****Preferences:**

- CacheBGone\_II
- PrefKiller
- Trash Bag
- Yank

**PRAM:**

- PRAM Auto-Restore
- Anti-Virus:**
- Disinfectant
- SAMScan

**Section 7:****SCSI:**

- LoadADrive
- ScannerProbe
- SCSIProbe

**General Utilities**

These are worth trying out, but didn't fit into the story:

- ADBProbe
- Alias Dragon
- Apple System Profiler
- Chiron
- Finder quitter
- Font Box
- InkJet Tools
- MacErrors
- SoftwareFPU
- The DiskTools Collection

**PowerBook Utilities**

Some special items only for PowerBooks:

- EMMpathy
- PowerBook Insomnia
- ResetPwrMgr



Find all of these programs on The Disc.

# T FRO TO

here upon the mountaintop, after braving treacherous footing, sheer

cliffs, high winds, and a dubious answering machine, you have reached the Macintosh guru. As a supplicant you kneel, make the proper offering of food (a Snickers candy bar often works) and present the Enlightened One with your Mac Conundrum. There is silence, broken only by the sound of wind and the faint, high cry of an osprey, while the guru considers your problem. Then, the guru speaks.

Have you tried zapping the PRAM?

It doesn't have to be this way. Liberate yourself from dependence upon others and follow the Seven-fold Path to Macintosh



Enlightenment. Along this path, you'll probe the mysteries of the Macintosh, giving yourself the tools to face a corrupted hard drive without another hike up the mountain.





# THE NEWBIE GURU

7 paths

## THE SEVEN-FOLD PATH TO MACINTOSH ENLIGHTENMENT

(OR ABSOLUTELY, POSITIVELY, 100% EVERYTHING YOU COULD EVER NEED TO KNOW TO KEEP YOUR MAC RUNNING TROUBLE-FREE)

BY DAVID REYNOLDS

ILLUSTRATIONS BY ADAM VANDERHOOF





# KARMA FOLLOWS NO TIMETABLE

**1** Trouble can—and, according to Murphy, will—strike when you least expect it. Follow the old Boy Scout motto: Be prepared. Here are three simple things you can do to make the inevitable problem less of a problem.



- **Make frequent backups.** There's no substitute for having a copy of your precious data in case there's an unfortunate loss in the family. Since it's no longer feasible to back up a hard drive to floppy disks in these days of multigigabyte drives (unless you have several hundred floppies and a few

free days), making a backup will probably require equipment that doesn't come with your Macintosh, namely: a tape backup, a Zip drive, or a Syquest drive. We recommend using a Zip drive, because it is almost as fast as a hard drive, and at less than \$20 for each 100MB cartridge (the drive itself sells for just over \$200), the cost can't be beat. Don't be talked into a tape drive. Tape backups are slower than death. Syquest drives are a better alternative to tape, but they can be expensive and their cartridges tend to be unreliable.

Once you get a Zip drive, consider some sort of backup utility software. Backup utilities help you track what's been backed up and when it was done. There are commercial products (such as Dantz Retrospect or Leader Technologies' PowerMerge) and shareware products that can do the job (several are on The Disc).

- **Have emergency software available.** When you do encounter a problem, there is some comfort in having the right tools at hand; not stuck on an inaccessible hard drive. In order to fix an errant Mac, you need to be able to start it up and have software that can deal with the problem.

- **Have a Disk Tools floppy available.** All Macs come with System software disks, and included in the set is either a Disk Tools floppy disk or a disk image of a Disk Tools disk. If you don't have a CD-ROM drive, you'll need to make a Disk Tools disk. If you do have a CD-ROM drive, make one anyway, because you never know when you might not be able to access your CD-ROM drive. In fact, make two or three copies to guard against the occasional bad floppy.

The Disk Tools floppy disk contains a minimal system that allows your Mac to start from that floppy disk, as well as Disk First Aid and Drive Setup. These two programs can go a long way toward rehabilitating an ailing Mac.

- **Make a utilities disk.** Put any other utilities on another floppy disk and keep it by your Mac for those times when Disk First Aid and Drive Setup aren't enough. Suggested utilities for your utilities disk are included on The Disc. With the Disk Tools floppy and utilities floppy available, you can start up your Mac, repair a corrupted directory or driver, and perform any other tests or repairs that your utilities will allow.

- **Perform periodic maintenance.** Although problems can strike at any time, there are a couple of things you can do to keep your Mac in good health.

- **Periodically rebuild the Desktop file.** The Desktop file is an invisible database file with information about which documents and applications are on your hard drive, how they should be viewed, and which application to launch when a document is double-clicked. Since it stores information about all the files on your hard drive (even after you throw them away), the Desktop file can get huge, and because the Finder reads from and writes to the Desktop file frequently, there are many opportunities for disk errors to cause problems. The solution? Rebuild the Desktop file every month or so, or more often if you start seeing generic icons in place of custom ones, or if you get application-couldn't-be-found type messages when you know the application exists.

- **Periodically defragment your hard drive.** Fragmentation, a normal part of using a hard drive, doesn't usually cause problems, but it can eventually slow down your drive. While defragmenting a hard drive isn't a high priority, it should be done every few months just to keep things at top speed. Commercial software is available to do defragmentation, usually as part of a utilities package.

## TIPS FOR BACKING UP

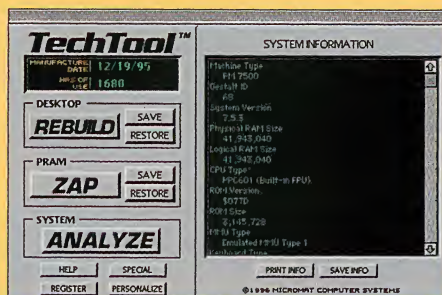
- **Decide which files to back up.** Back up all of your documents. And back up some preferences files, because these contain information (like registration numbers and settings) important to the applications that use them. You might also want to back up software that you've downloaded to avoid downloading it again. You don't need to back up applications for which you have installation disks.
- **Set a backup schedule.** Your backup schedule is dependent upon how much you use your Mac. If you save a lot of new data on your hard drive everyday, you should consider a backup every few days; if you don't, then do a backup every couple of weeks.
- **Remember that the first backup is the worst.** After the first backup is done, you only need to copy those files that have changed since your last session, which means that the backups should be considerably shorter.

## HOW TO REBUILD THE DESKTOP FILE

1. **Restart your Mac with Extensions off.** (Some extensions can cause corruption if the Desktop is rebuilt while they are active.)
2. **Hold down the Command and Option keys** until a dialog box comes up asking if you want to rebuild the desktop.
3. **Click "OK."**
4. **Wait for the Finder to rebuild the Desktop file.** (This could take several minutes, so you can treat it like a commercial break—go visit the refrigerator.)

Alternately, use **TechTool**, a free utility that rebuilds the Desktop file for you without rebooting your Mac. TechTool deletes the Desktop database files (rather than just modifying them, as the Finder does) and forces the Finder to restart.

When the Finder gets going, it sees that it has to rebuild the Desktop, so it builds an entirely new database. The authors of TechTool claim that this is better because a regular Desktop rebuild may only modify a damaged Desktop, whereas TechTool gives you a fresh one every time.



TechTool is indispensable for troubleshooting.

## WHAT TO PUT ON A UTILITIES DISK

Your utilities disk should include a collection of software that will be useful in the event of a crash. Here's our list of things (other than a commercial utilities package) that we like to have around. You'll find all of these on The Disc:

- Disinfectant
- MacErrors
- RAM check
- SCSIProbe
- TechTool



**2** Your Macintosh peripherals like structure. A lot of structure. After all, they have to keep track of millions of bits of data, and they have to be able to communicate with each other and the mother ship itself, while making sure all the data remains intact. It isn't easy, and mistakes happen. (Yes, even computers make mistakes—don't you feel better now?) There are things that can be done to repair a crumbling structure.

• **Know and love Disk First Aid.**

Disk First Aid, a utilities program that ships with every copy of the Mac OS, will check and repair the structures on a hard drive (catalogs, directories, and the like) that are used to organize the files that live there.

• **Buy and learn to use a utilities package** such as Norton Utilities. Although Disk First Aid is good at what it does, it doesn't perform as many tests and repairs as commercial utilities do. We highly recommend you buy a commercial utilities package. In addition to a disk repair program, most utilities packages come with several other applications (such as

defragmentation and file recovery programs), so you get an added bonus.

• **Be aware of device drivers.**

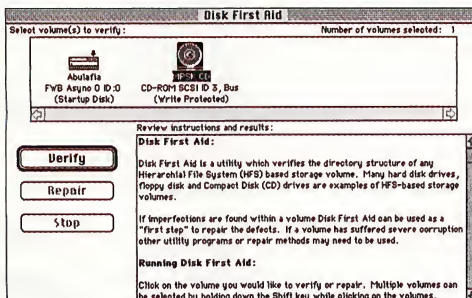
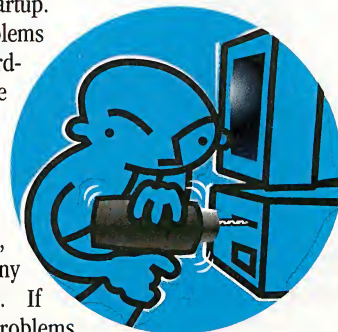
Peripherals use little bits of software (called drivers) that tell the device how to interact with your Mac. If these drivers become corrupted, strangeness can

resulting in the infamous flashing question mark upon startup.

But driver problems aren't only for hard drives and the Highway Patrol. Corrupted device drivers can also cause problems for CD-ROMs, scanners, or any other peripheral.

If you're having problems with a specific peripheral, try reinstalling its driver software.

• **Bringing the dead to life.** Files that have been erased from your hard drive are not necessarily gone for good. When a file is thrown in the trash and the trash is emptied, the Mac doesn't go through and destroy the file on the hard drive. Instead, it marks the space that the file occupies as "OK to write over" so that when it needs to write something else to the hard drive, it knows it can use that space. A file recovery utility such as Symantec's UnErase (part of Norton Utilities) may be able to get a file back that has been thrown away.



**Disk First Aid, a program that comes free with your Mac, is much more powerful than you might think.**

result. Hard disk drivers can be especially problematic, because they live on the hard drive itself (instead of in a ROM chip or easily replaceable extension), and are subject to corruption, possibly

## RETRIEVING A FILE YOU'VE THROWN AWAY

If you've trashed a file that you really do need (and you own a file recovery program), here's what to do:

1. **Try not to use the hard drive at all.** Any activity on the hard drive creates the risk of writing over the file you want to recover.
2. **Run your file recovery program.**
3. **Recover files to a disk other than your hard drive** (this is another place where a Zip drive comes in handy). Although there are no guarantees, there is the possibility that you can get your hard work back from the abyss.

## DISK FIRST AID

1. **Start up your Mac with the Disk Tools floppy** you put aside while reading Part One. (You did put one aside, didn't you?)
2. **Launch Disk First Aid** and click on the Repair button. Disk First Aid notifies you of any problems that it finds and attempts to repair them.
3. **If you run Disk First Aid** on your Startup drive, you can only check for problems with that drive by clicking the Verify button.

## HOW TO UPDATE YOUR HARD DISK DRIVER\*

1. **Start up with your Disk Tools disk.**
2. **Launch Drive setup and select your hard drive in the window that appears.**
3. **Select Update from the Functions menu.**

**Caution:** Drive setup is also used to initialize a hard drive, so take care when mousing near the Initialize button, or you could end up with an empty drive.

\*This only works for Apple hard drives. If you own a third-party drive, read the owner's manual that came with it.

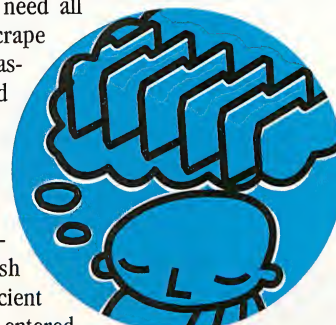
**3** Memory is akin to workbenches in a shop: The more benches you have, the more projects you work on at one time. The inverse rule also applies: The more benches you have, the more clutter you can pile on them. Then there's the problem of too much bench and not enough project (or more commonly, too much project and not enough bench). These all apply to Macintosh memory management.

• **Know how to set memory partitions.** In the Get Info box for every

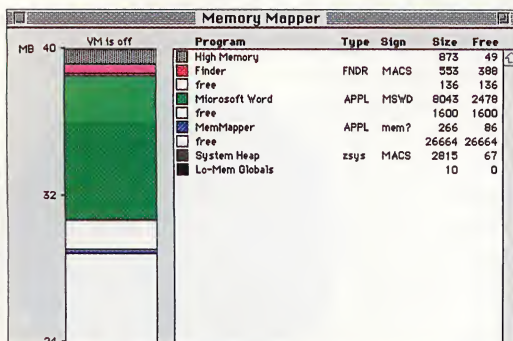
application (just select the application in the Finder and type Command-I or select Get Info from the File menu to see it), there's a place where you can set the amount of memory an application uses. Listed in that box is the suggested size (which can't be changed), a minimum size (the absolute least amount of memory with which an application can run), and a preferred size (the application will take up to this amount of memory if it's available).

If your application runs slowly, try increasing its memory allocation; howev-

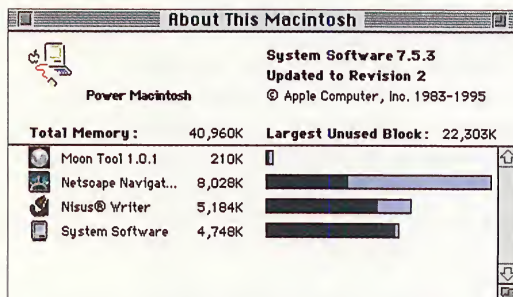
er, if you're running in a tight memory situation, and you need all the RAM you can scrape together, try decreasing the preferred size. You can decrease the minimum size, but if you go below a certain point, the application may crash because of insufficient memory. If you've entered the minimum size danger zone the







**MEMORY MAPPER** reveals how your Mac divides its RAM among all the things that demand it.



**THE ABOUT THIS MACINTOSH** box also displays how RAM is divided. The **Largest Unused Block** item doesn't necessarily show how much RAM is available, however.

Finder will notify you when you try to close the Get Info window.

• **Understand the System heap** and fragmented memory. Selecting About This Macintosh from the Apple menu while in the Finder will call up a profile of how memory is being used on your Mac. Here you'll see how much built-in memory your Mac has, how much total memory it has (this can be different from the built-in memory if you're using RAM Doubler or Virtual Memory), and the Largest Block Remaining. Notice that this doesn't say

Total Free Memory. If you've had a few applications open at the same time and you close one or two, and then start another, you may be fragmenting your memory, which is similar to fragmenting a hard drive.

When multiple programs are running, they each take up a block of RAM. When you close one, it gives up its block, but the programs that were opened after it still hold on to the blocks that they have. That means that if you start up your Mac, launch three programs and then quit the first, you can have your free memory split between two places. To remedy this, simply quit all open programs. This returns your free memory to one single block.

If you notice that the Largest Unused Block reading plus the amount of memory used by applications doesn't match the amount of memory you have on your Mac, your System heap has been fragmented. To remedy this you can restart your Mac, or use FixHeap (included on The Disc), a utility that will defragment the System heap.

• **Set your Disk Cache.** The Disk Cache (settings are in the Memory Control Panel) is a block of RAM set aside to hold often-referred-to instructions. The idea is that if your Mac can find what it needs in RAM rather than on the hard drive, it will perform faster. But because the Disk Cache increases the size of the System heap (and slows down some programs) it's not a good idea to crank it as high as it will go. Arguments about how big the cache should be have raged on for years. We offer these bits of wisdom (unless you're using Photoshop, in which case you'll want to set it at 32K): Try playing around with different Cache settings. If you notice a speed increase, leave the Disk Cache set at

the point where you notice the difference. If you don't notice an increase no matter how high you set the cache, put it at 32K so that you get as much RAM as you can out of your system.

**Microsoft Word Info**

Microsoft Word  
Microsoft Word 6.0.1

**Kind:** application program  
**Size:** 4.2 MB on disk (4,382,536 bytes used)  
**Where:** Abulafia: Applications: Word  
Processors: Microsoft Word 6:

**Created:** Mon, Apr 8, 1996, 12:28 PM  
**Modified:** Wed, Jun 12, 1996, 4:30 PM  
**Version:** 6.0.1, Copyright © 1983-1995 Microsoft Corporation

**Comments:**

**Memory Requirements**

Suggested size: 6918 K  
Minimum size: 5928 K  
Preferred size: 10000 K

☐ **Locked**

**Note:** Memory requirements will decrease by 3,918K if virtual memory is turned on in the Memory control panel.

**THE GET INFO COMMAND** reveals a wealth of information and memory control.

**Memory**

**Disk Cache** Always On Cache Size: 32K

**Modern Memory Manager**  
☒ On ☐ Off

**Select Hard Disk:** Abulafia  
Available on disk: 545M  
Available built-in memory: 40M

**Virtual Memory**  
☐ On ☒ Off

**RAM Disk**  
☐ On ☒ Off

Percent of available memory to use for a RAM disk:  
0% 50% 100%  
RAM Disk Size: 0K

Use Defaults

v7.5.5

**THE MUCH-DEBATED** disk cache settings can be changed in the Memory control panel, along with other memory-related settings.

## DID YOU KNOW

that it would take over 700 high-density floppy disks to hold as much information as a 1GB hard drive? At 1/8" width per floppy, a stack of 700 would stand nearly 90 feet tall; or, placed side-by-side, they would stretch nearly half a mile. Martha Stewart could surface a small patio with those.

**You have set the Minimum and Preferred sizes below 5,928K, which may cause "Microsoft Word" to crash.**

Are you sure you want to continue?

Cancel OK

**DANGER WILL ROBINSON!** Setting your application's memory size below its minimum is a recipe for trouble.

## A QUICK-'N-DIRTY TROUBLE-SHOOTING GUIDE

In general, certain symptoms mandate specific solutions. To get rid of general strangeness, we recommend the following steps:

- **Rebuild your Desktop.**
- **Scan the hard drive** with Disk First Aid or Symantec's Norton Utilities.
- **Check your SCSI setup** (if you've

recently fiddled with your SCSI setup).

- **Check for Extension conflicts.**
- **Update disk drivers.**
- **Zap the PRAM.**
- **Do a Clean Install** of your System.

(Since TechTool scans System files for corruption, try using it first before doing a Clean Install. This may save you some trouble.)



**4** All is not harmonious inside your Mac. Extensions, Control Panels, the System, and applications all struggle for the same resources, and sometimes this struggle turns into a fight. A little extension skirmish might cause some oddities (such as menu bar conflicts or data corruption) in your Mac, but a major battle may result in a system freeze. If you think you've become collateral damage in an extensions battle, here's what you should know:

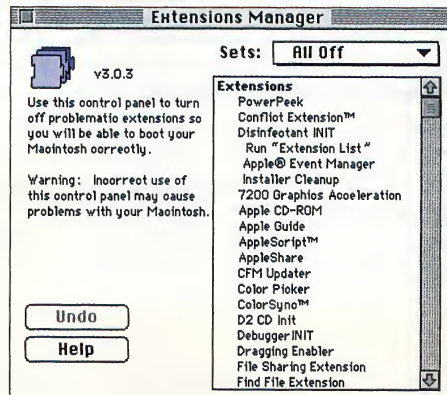
- **Know how to start up with extensions off.** Turning off all extensions when starting up your Macintosh can be a life saver. Hold down the Shift key while starting up, and your Mac will give you the message "Extensions Off" below the Welcome To Macintosh message while loading the System software. You may be surprised at how fast your Mac is ready to go; all those Extensions and Control Panels take time to load and use memory.

If your Mac freezes while starting up, this should get you—tem-

porarily—up and running, at least long enough to find the offending extension.

- **Know how to use the Extensions Manager.** Apple has thoughtfully provided the Extensions Manager to help with Extensions conflict. Through this Control Panel/Extension duo, you can control what loads at startup, making it easier to track down any unruly Extensions. Conflict Catcher from Casady & Greene does everything the Extensions manager

**APPLE'S EXTENSIONS MANAGER makes it easier to track down unruly extensions.**



does, and more. It deals with Extensions and Control Panels, and it works with Chooser Extensions, Apple Menu items, fonts, and and it helps diagnose Extension conflicts. We recommend you invest in a copy.

- **Trace the problem to its root.** To bring your Mac back safely from the Extension conflict front lines, you need to hunt down the Extension that's causing the problem. If you added an Extension or Control Panel just before the trouble started, try turning that item off. If that doesn't solve the problem, turn all your Extensions off, and then back on one at a time, restarting each time, until the problem shows up. The last Extension you turned on is most likely the culprit. Either remove it, or try it in combination with other Extensions to find out who is fighting whom. Conflict Catcher makes managing Extensions and tracing conflicts easier.



## GRACEFUL ESCAPES

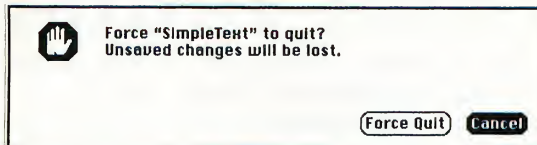
**5** When bad things happen—and they do, even to nice Macs—there are ways to take only a glancing blow instead of a full-on punch to the solar plexus.

- **Force Quit.** A few useful key combinations can get you out of trouble. The most common is the Force Quit. To quit a program (including the Finder), try pressing Command-Option-Escape. Your

Mac will ask if you want to quit. Force Quits are useful when a program has frozen, or something has gone wrong and you can't quit.

- **The Interrupt key.** On most older Macs, there are two buttons located on the front

or side of the case: one with a triangle and one with a circle. The triangle key is the Reset key. Push it and the system chimes and resets. The circle key, though, is the key to strange and arcane powers. Push it and the system drops you into the debug-



**COMMAND-OPTION-ESCAPE lets you force your Mac to quit.**

ger. (On newer Macs, push the Power key on the keyboard and hold down the Command key to produce the same effect.)

- **MacsBug.** MacsBug is a debugging Init. It lives in the System Folder and when a System Error happens, it puts up a screen

full of numbers and letters. Don't be intimidated. At the bottom of the screen is a command line. If you have a System Error and you've installed MacsBug, it will pop up and you can restart by typing rs or rb and hitting return (rather than having to use the Reset key). This saves a little wear and tear on your Mac, because the Restart command allows it to prepare for the restart. For a list of cool things to do with MacsBug: go to <http://www.biddeford.com/~benyc/Macsbug.html>.



## WHEN THE RESET KEY DOESN'T WORK

To the average user, the debugger isn't useful. But if you're running a program that freezes and won't respond to the Force Quit key combination, try this. (Press the key with the circle to get to the debugger—you'll see a dialog box with a > prompt.) Here's what to do next:

- **Push the Programmer's key.** (In older Macs, it's the small key with the triangle symbol on top. On newer Macs, it's the Command Power key, which also has a triangle on it.) You'll be presented with a white box that has a greater-than (>) sign on the left. This is the prompt. (If the white box doesn't appear, you may as well reset your Mac—it's too far gone to benefit from anything else we can do here.)

- **Type SM 0 A9F4:** Hit the return key. This makes your computer do a hex dump (a partial dump of what's in memory) of the local segment. The window will fill with a bunch of numbers and letters.

- **Type G 0 (zero):** Hit the Return key.

If all goes well, you should be back in the Finder. Any unsaved work that was in the frozen program is now gone, but you should be able to save work in any other open program. Restart your Mac as soon as possible after doing this, because it probably isn't stable.

Alternately, you can try a straight shot to the Finder by typing GO FINDER after the > prompt then hitting return. You may or may not be put back in the Finder after this.



# EXPOSING CORRUPTION

**6** Disk structures aren't the only thing that can become corrupted. Your Mac's Parameter RAM (PRAM) and Preferences files can also succumb to the dark side.

- **Zap the PRAM.** The PRAM is a little bit of RAM that stores information about your Mac (such as mouse settings and which printer is selected). That information, which doesn't get erased when you shut down, can get corrupted. You can purge (or zap) your PRAM with just a few steps.

- **Clean out the Preferences files.** Sometimes a Preference file can become corrupted,

causing strange behavior in the application that created it. If you notice an application or Control Panel acting strangely, try throwing away its Preference file. This may clear up the problem. Be careful about just willy-nilly throwing out Preference files. They contain settings for the program to which they belong, and some of them contain serial numbers. If you're using a program such as Word or Photoshop, you may have hours of tweaking stored in that preference file. If you don't want to lose these settings and you've been backing up your Preferences files, try replacing the suspect file with an earlier version from your backup disks.

- **Know how to do a Clean Install.** A Clean Install puts a brand spankin' new System Folder on your hard drive and renames your old one Previous System Folder. You should care because resources in your System (or Finder, or other bits of System software) can become corrupted, and a

normal install of your System doesn't necessarily replace damaged files. It looks to see if System files are outdated before replacing them.

If you're experiencing problems, you might try performing a Clean Install. For some reason, Apple chose to hide the Clean Install option.

- **Practice safe computing.** Computer viruses are not the scourge that they are in the PC world, but they do exist. If your hard drive has been slowing down (and doesn't need to be defragmented) or your Mac is exhibiting strange behavior that can't be explained by other things, you may have a virus.

There are several good anti-virus programs. We've included some on The Disc.

## How To Zap Your PRAM

- **Hold down** the Command-Option-P-R keys while your Mac restarts.

Your Macintosh will stumble a little, then restart. Zapping the PRAM resets some Control Panels (like Monitors and AppleTalk), so you'll have to adjust a few settings after zapping.

Alternately, use TechTool to zap the PRAM. TechTool also allows you to save the PRAM settings, and it claims to reset the PRAM more deeply than a mere set of key combinations.

**IF THINGS STILL DON'T WORK,** try reading the System 7.5.3 license agreement backward while burning a DOS disk.

## How To Do A Clean Install

1. **Start up your Mac** from your System install disk.
2. **When the main installer** screen appears, type: Command-Shift-K.
3. **The installer will ask** if you want to install a new System Folder. Hit OK. Your old System Folder will be renamed Previous System Folder.
4. **After the installation** is finished, quit the installer, then throw away the System and

Finder in your Previous System. Make sure they're gone. (Two Systems or Finders on the Startup Disk can confuse your Mac resulting in more problems.)

Other important stuff is stored in your System Folder, so keep the previous one around while you set up your new one. Once you're sure you don't need anything in the Previous System Folder, throw it away.

# APPEALING TO A HIGHER MECHANICAL POWER

**7** Sometimes, your Mac can encounter evils not related to software. While hardware-related problems are comparatively rare, they do pop up now and then, and those problems can be truly strange.

- **Identity crisis.** SCSI devices all require an ID number from 0 to 7. If two SCSI devices have the same ID number, bad things can happen, from devices not responding to hard drives

eating each other's directories—it's not pretty. Before hooking up a new SCSI device, find out what SCSI IDs are already in use (you can use SCSI Probe, a utility included on The Disc). Apple usually sets the Mac's internal hard drive to SCSI ID 0 and the CD-ROM drive to SCSI ID 3.

- **Learn to terminate.** SCSI termination is more black art than science. Ideally, termination tells the computer where the SCSI chain ends and where it begins, because there is a terminating resistor on each end. Since internal hard drives are terminated (marking one end of the chain), one would think that a terminating resistor at the other end of the chain would mark the end. This isn't always so. If you're experiencing problems with your peripherals (or your Mac shows the flashing question mark right after you install a new scanner), SCSI termination may be your problem. Experiment. Try changing the termination of the end device. If that doesn't work, try changing the termination of devices in the middle. If that fails, rearrange the order of the devices. If things still don't work, try reading the System 7.5.3 license agreement backwards while burning a DOS disk.

- **The Chimes of Doom.** Once in a great while, something new happens when you

start your Mac. Instead of a cheerful Happy Mac, you get a black screen with a Sad Mac. The "Chimes of Doom" dirge plays in the background. This is bad. Very bad. It may not be the end of your Mac, however.

Turn off your Mac for ten minutes to reset it, then try starting up with the System disk you have put aside. If your Mac starts up from this disk, you probably have a problem with your hard drive or your System, and your Mac may not have to go into the repair shop. Try some of the techniques you've read about here to see if you can get things going again. I've seen the Sad Mac twice, and both times my Mac has survived.

You are now firmly on the path to Mac Enlightenment, knowing what only a few Mac users know. Apply your new wisdom well. ▣

**David Reynolds recently opened his Centris 650 and pulled out the hard drive cable so his Mac would recognize the CD-ROM.**





# WHERE TO GET A LITTLE HELP

**W**hen you finally decide to drop the ego act and call for help, have the following information ready:

- Model of Apple product
- Version of the Mac OS you're using
- A list of applications, control panels, and extensions you are using when the problem occurs
- A detailed description of how to recreate the problem (if you know).

The more you know, the faster you'll be able to get help. Here are some places to start:

## APPLE ASSISTANCE CENTER

**Contact:** 800-SOS-APPL (767-2775)

**Pros:** These people know the Macintosh.

**Cons:** You may spend the rest of your life on hold.

**What you should know:** Call 10 a.m. to 2 p.m. Central time during the middle of the week for best results. Although assistance for Macintosh owners is only available 8 a.m. to 8 p.m., Performa owners can get help here 24 hours a day, seven days a week. Apple has given all Mac clone makers the information they need to offer the same level of technical support that Apple offers, so if you own a clone, call your clone manufacturer's help line.

## APPLE FAX

**Contact:** 800-505-0171

**Pros:** Chock-full-of-data documents come to your fax machine faster than you can say "S.O.S. Apple."

**Cons:** You can't ask questions of anyone but the voice mail system.

**What you should know:** Since there are nearly 1,000 documents available, request that a catalog of what's available be faxed to you and then request the specific document you need.

## APPLE'S SUPPORT AND INFORMATION WEB

**Contact:** <http://www.support.apple.com>

**Pros:** Tons of information available at all times.

**Cons:** Requires an Internet connection. No way to e-mail questions.

**What you should know:** The Technical Information Library (the same resource that Apple technical support uses) is available here. The information, however, is highly technical and doesn't follow a "here's a question, here's an answer" format, making it somewhat of a puzzle to find answers.

## USERS GROUPS

**Contact:** 800-538-9696 x500 for a group near you

**Pros:** There's nothing like a group of MacAddicts to help solve a problem.

**Cons:** Finding and joining a user group takes time, so immediate assistance may not be available.

**What you should know:** Although you may not get help on an immediate problem, user group contacts can be invaluable in cases of future worries.

find it

main

### Tech Info Library

The Tech Info Library is Apple's database of technical issues. You can search the TIL by choosing keyword(s) from the two lists below and/or entering a search string in the text entry box below.

Please enter Subject(s), a search string or both, then click the Start Search button:

Select Subject:

Select Subject:

Selecting a subject automatically enters a TIL keyword. For more info on keywords click searching help below.

Search for:

Show first:

You can also browse the TIL through our folder view to find articles.

**Top 100 most popular TIL articles** - The top one hundred articles accessed on this server in the last week.

**TIL Feedback** - Let us know how the TIL works for you. Please share your experience with us and tell us what you would like to see added to the Tech Info Library. Our e-mail address is [tll@austrin.apple.com](mailto:tll@austrin.apple.com). We will be unable to respond to these messages, due to volume.

APPLE'S WEB SITE contains a Tech Info Library that you can search. Unfortunately, the articles are often much too technical—oriented toward tech support specialists rather than ordinary folks.

## CONSULTANTS

**Contact:** 800-290-2776 for a list of consultants (by expertise)

**Pros:** One-on-one help from a Mac expert? Sign me up!

**Cons:** \$30 to \$100 an hour? Never mind.

**What you should know:** Check references when hiring a consultant. If the cost of a professional is too high, consider hiring a student or consulting your local user group for someone

willing to work for a little less money. If you bought your Mac from a dealer, call that dealer to see if they offer consulting services or references.

## ONLINE FORUMS

**Contact:** GO MACPLANET or GO ALSUP (CompuServe)

**Keyword:** applecomputer (America Online)

Various comp.sys.mac newsgroups (Usenet)

**Pros:** 24-hour access to Macintosh users and information.

**Cons:** Responses come from other Mac owners, not Apple.

What you should know Post messages in

CompuServe to "all" or "all and sysop" to increase the chances of getting a reply. Both the CompuServe and AOL areas have the Apple Technical Information Library.

find

Tech Info Library

Apple Software Updates


Technical Resources

Discussion Forums

Support Professional

Service Source


Feedback



### Apple Support and Information Web

**Interested in Cyberdog or QuickTime?**

Visit our new Discussion Forum and Feedback areas. Join others by posting questions and answers to our public forums and provide feedback directly to Apple.



**Macintosh System 7.5.3 Update Revision 2**


Apple is recommending that only customers with specific system software and Macintosh computers update their systems with System 7.5.3 Revision 2. Visit the System 7.5.3 Update Revision 2 Home Page for complete details and download information.

**Apple Repair Extension Program**

Look here to find information on the Apple Repair Extension Program.

**Apple Tech Info Library**

Access a subset of the same Technical Information Library (TIL) Apple engineers and technicians worldwide use to troubleshoot and solve your technical questions. With access to over 12,000 articles updated daily, this page includes a search engine to get the information you need fast as well as a browsable version of the TIL.



Cyberdog version 1.0!

**NEED SOME TECHNICAL INFO** on an Apple product? Need to find a System software patch? Check out <http://www.apple.com>.





diet plan



12-STEP

# SYSTEM DIET PLAN

IS YOUR SYSTEM TIPPING THE SCALES AT 60MB? 90MB? MORE?

THEN FOLLOW OUR DIET PLAN TO TRIM IT DOWN TO A HEALTHY SIZE.

BY STEVEN ANZOVIN

**W**hen you first got it, your Mac was slim, trim, responsive—the quickest, little-bitty box around. Over the years, things have changed, and not for the better. Now your Mac seems depressed, sluggish, exhausted; it can barely get out of bed at startup time. Your hard disk seems to be shrinking, too—no surprise, with your System Folder tipping the scales at a portly 60MB, 80MB, or even more.

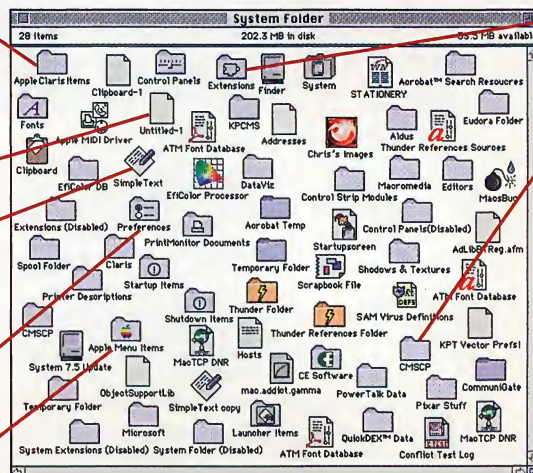
LOTS OF TRANSLATORS in here to ditch. Also check out the DataViz, QuickDex, and Microsoft folders.

HOW THE HECK did this get here? Read it and delete it.

HERE'S ONE COPY of SimpleText. How many more are on your hard drive?

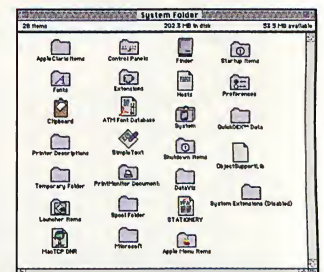
DELETE PREFERENCES files for all those applications you no longer use.

RUTHLESSLY PRUNE old aliases and rarely used applets, such as the Puzzle.



HERE'S WHERE YOU'LL find the biggest mess. Go through it with a fine-toothed comb.

FAT, TROUBLESOME color management files probably aren't needed.



BEFORE

AFTER





**J**ust as excess flab is no good for you, it's no good for your Mac's System Folder. Over the years, you've upgraded the System numerous times, installed applications, trashed applications, and added who-knows-how-many-extensions, control panels, fonts, preference files, translators and mystery files you didn't even know you had. No wonder your Mac feels like it's had one too many matzo balls. All those extra items crowding your System folder are also likely to cause compatibility problems, error messages, and system crashes. The extraneous files consume hard disk space, slow your Mac's startup time to a crawl, and nibble away at your precious RAM.

Don't worry. All that's needed to get your System back in shape is a good diet plan, and we've got one: MacAddict's proven 12-Step System Diet Plan.

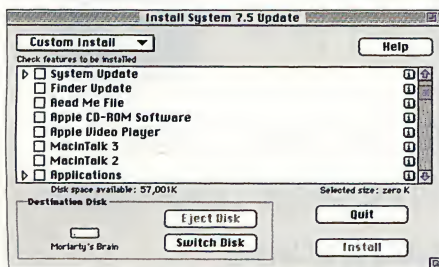
Before you embark on the road to a slim, trim System, close your eyes and recite this mantra: "Back up. Back up. Back up." Copy your entire System Folder and put it somewhere safe—you never know when you'll want some of it again.

## STEP 1

### UPGRADE WISELY.

An ounce of prevention is worth a pound of fat—remember this when its time to upgrade your System software. Don't put everything on the System software disc into your System Folder. The upgrade, designed to meet the needs of many different kinds of Mac owners, contains hundreds of files you simply don't need—the equivalent of excess calories for your System.

Take the 32.4MB CD Extras folder—please! (Ba dum bum!) The folder contains some interesting software, such as Desktop Pattern Clippings, but it's nothing most Mac owners really need for performing day-to-day work. Even if you do need some of the Extras, use



APPLE'S SYSTEM INSTALLER lets you pick which features to install on your Mac.

common sense: for example, don't install the 1.7MB of PC Card modem files if you don't own a PowerBook.

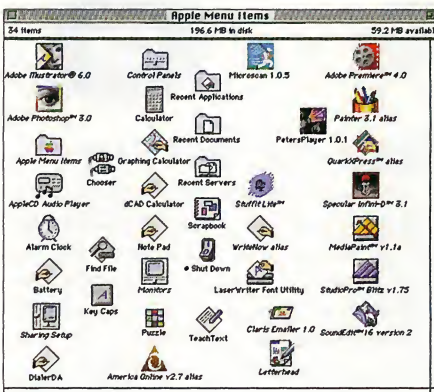
Apple has made it easy for you to pick and choose what you want to install. The new System software has the most flexible installer to date. Choose the Custom Install option and install only the software you really need. There's even an Uninstall option if you overindulge.

**WEIGHT LOST: 32.4MB (ALREADY!)**

## STEP 2

### CLEAN UP YOUR APPLE MENU ITEMS FOLDER.

This one's easy. If there's something in the Apple Menu Items folder that you've never actually used, then trash it. Sure, the graphing calculator (500K) gives a great demo, but when was the last time you needed to know the area of a hyperbola? The same goes for the Puzzle



**IF THERE'S SOMETHING** in your Apple Menu Items folder that you don't use, just toss it.

(65K) and maybe the Scrapbook (54K), too. Then there are all the aliases (at least 2K each) for applications you no longer own or have upgraded. There's absolutely no way you can delete something from this folder that will cause your System not to start up in the morning.

Here's a control panel tip that will trim a little extra fat from your Apple Menu: Go to the Apple Menu Options control panel. Under Remember Recently Used Items, set a low number for the number of items retained in the Recent Applications, Recent Documents, and Recent Servers folders. If you never use it, turn off this option altogether. You'll lose 5K per item, or 115K at the default settings of 10 documents, 10 applications and three servers—plus, by relieving your System of the need to keep track of these things, you'll also realize a small gain in performance.

**WEIGHT LOST: 734K**

## STEP 3

### DEAL WITH CONTROL PANELS.

Most control panels (cdevs) are useful for your System's smooth running, but there may be a few surprises hidden away here. For example, many external hardware devices install extra cdevs, and they can be surprisingly large. Iomega's Zip Drive comes with two CDevs—Personal Backup and VirtualDisk Starter—that total 1.2MB, but neither is absolutely necessary to operate the drive.

Apple's standard Control Panel suite includes a few CDevs that you probably don't need. Eminently deletable if you don't have a PowerBook or an EtherNet network: Token Ring (33K), Brightness (16K), and PowerBook Trackpad (116K). You don't need both the Monitors and Monitors and Sound CDevs; delete Monitors to trim 56K. But don't throw out everything. Instead of ditching the EnergySaver panel (33K), why don't you use it instead and save yourself a few dollars on your power bill?

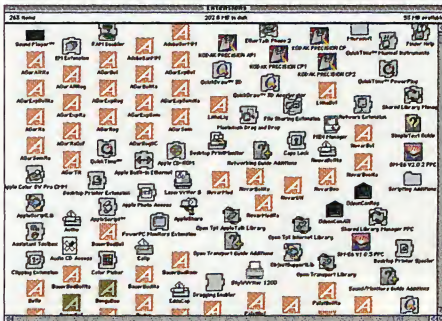
**WEIGHT LOST: 221K**

## STEP 4

### STRAIGHTEN OUT YOUR EXTENSIONS FOLDER.

An orderly collection of extensions is essential for your Mac's health, but achieving order isn't easy. First, your Extensions folder most likely has a huge list of files inside it—300 or more isn't unusual. Second, many of the items have wonderfully cryptic names such as "OpenTptAppleTalkLib" or "Open TptAppleTalk Library". (Did you catch the subtle difference in the names?) Third, Apple gives you little or no information on which files you really need.

The effort it takes to clean up your Extensions



THE MESSIEST, MOST PROBLEMATIC FOLDER on your Mac is probably the Extensions folder.

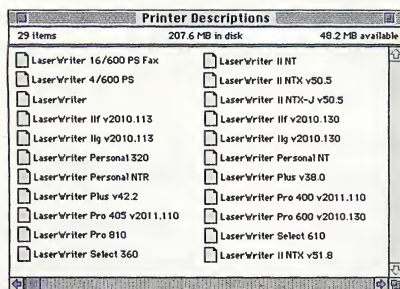


folder is worthwhile. Cutting back on extensions is the best way to speed up your Mac's start-up time, and it also reduces the possibility of nasty extension conflicts and System bombs.

Start with the easy tasks first. Not hooked to an Ethernet Network?

Delete Ethertalk Phase 2 (18K). If your Mac isn't connected to a network, you may be able to nuke all of the Open Transport files—including Open Transport AppleTalk Library, Open Transport Internet Library and Open Transport Library—to lose 1.6MB. (But don't delete any of these files if you use internet software that depends on Open Transport.)

Check out what's in the Printer Descriptions folder. You'll find 29 files for printers, most of



**A BAZILLION AND ONE printer descriptions for printers you don't have. Dump 'em.**

Throw out any that don't apply to you.

Then there's speech. PlainTalk is a great technology, but how many programs use it? The full install of English speech recognition and text-to-speech software eats 6.4MB, most of it residing in the Extensions folder. Save the space.

Be cautious, though. If there's a file you can't identify, or you're not sure if you need it, leave it alone. As for extension conflicts, get professional help. We recommend Conflict Catcher, from Casady & Greene (408-484-9228), the best commercial extensions manager.

**WEIGHT LOST: 10.8MB**

## STEP 5

### BREAK THE FONT HABIT.

Is collecting fonts your secret jones? It's a common enough habit among MacAddicts, but it's one you'll have to break—or at least get under control. All those enticing typefaces slow program launching, bloat the Font menu for every application, consume RAM and disk space, and lead to difficult-to-solve font conflicts.

First, delete fonts that are no longer useful, including fonts from bygone applications. If you were one of the 150,000 or so who subscribed to Apple's late, lamented eWorld online service, you've got eWorld fonts. Trash 'em to lose 28K. Other potential trashables: HyperCard fonts (68K), TaxType fonts from old versions of MacinTax (300K), and fonts from old Voyager CD-ROMs (maybe 100K each). At the same time, look for duplicate fonts and delete the older copies. Remember, you'll want to delete not only the font suitcases in your Fonts folder, but also any related printer fonts.

Next, weed out fonts that are out of fashion. You're likely to find some, like the grunge fonts that were in vogue a year or two ago, that no one would think of using now.

Finally, reorganize your fonts. Install only your everyday fonts in your System Folder, and organize others into categories in their own folders outside the System Folder. Swap sets in and out as necessary. Font management programs like Suitcase (Symantec, 503-334-

which you don't own and never will. (How many of us can afford to buy a LaserWriter Color 12/600 PS, anyway?) Toss them and lose 700K. Elsewhere in the Extensions folder, you'll find Color SW files, totaling 2.1MB, for the Color StyleWriter series.

6054), Adobe Type Manager, Adobe Type Reunion (Adobe, 415-961-4400), or MasterJuggler (Alsoft, 713-353-4090) make the task of managing your fonts a lot easier.

**WEIGHT LOST: 1MB**

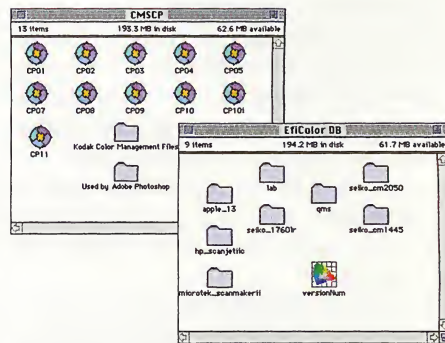
## STEP 6

### THROW AWAY

### COLOR MANAGEMENT FILES.

Color calibration and color management is a tricky business for desktop publishers and illustrators, and it requires multiple megabytes of support software. If you aren't doing any high-end color printing and you don't own a color scanner or printer, you can trim any number of files. From the Extensions folder, delete Apple's ColorSync (41K), ColorSync Profiles (50K), and ColorSync System Profile (14K). If you find them, also trash: the CMSCP folder (680K); all Kodak Precision files in your Extensions folder (528K); the EfiColor DB folder (1MB); the EfiColor Processor (288K); and the KPCMS folder (Kodak's color management system), for a loss of 387K. There's a ColorSync control panel (33K). If you use some of these, then at least destroy profiles of scanners and printers you'll never use.

**WEIGHT LOST: 2.9MB**



**UNLESS YOU ARE A PROFESSIONAL publisher, you don't really need these color management tools.**

## STEP 7

### DITCH FOLDERS AND FILES FROM LONG-GONE APPLICATIONS.

Many applications add folders to the System Folder when you install them. Often, these

## CLEANING UP THE MICROSOFT MESS

If you've bought and installed the whole Microsoft Office enchilada, then you've lost 62MB of hard drive space to Microsoft. And chances are that you don't even come close to using all of the items that Office gives you. There are templates for everything, word processing tools, the equation editor, clip art, help files, and—argh!—Wizards (we've found that using Wizards is much harder than just navigating through Microsoft's less-than-intuitive menus).

But here's the catch: it isn't safe to just go willy-nilly deleting items from the Microsoft Office folders and the System Folder. We've tried that. Usually you'll get some bizarre series of dialog boxes on startup that you must click through in order to reach the Finder. This won't destroy anything, but it's annoying as heck.

Fortunately, buried within you Microsoft Office folder is an application called Microsoft Office Setup. It doesn't actually help you set up anything, but it does allow you to install or uninstall parts of Office, or even the whole thing. Microsoft Office Setup makes it easy to do a minimum Office installation and then go back later should you decide to install more templates or a help system.





folders contain help files, translators, dictionaries and other miscellaneous items. When you run across a folder with the name of a long-unused application, toss it. You'll find that this happens most frequently with games and CD-ROM titles since those are the applications most likely to be used for a while and then discarded.

Another good place to cull useless files is in the Preferences folder. Every program you ever popped into your Mac for five minutes has stashed a preference file, and some of those files can be up to 1MB in size. (Graphics applications are some of the worst offenders.)

**WEIGHT LOST: 1MB**

## STEP 8

### CLEAN UP FOLDERS FOR INSTALLED APPLICATIONS.

Even if you are still using an application, you can delete some of the items found in its folder. For example, if you use ClarisWorks, the Claris folder in your System Folder boasts a veritable mob of translators. Don't know the difference between AppleWorks (28K), AppleWorks DB/SS (16K) and AppleWorks GS (8K)? Don't care? Dump 'em and trim 500K. Should that rare day come when you need one of these files back, simply reinstall it from your master disks. (You do have back up disks for all of your applications, don't you? If not, please repeat the "Back up" mantra ten times.)

**WEIGHT LOST: 500K**

## STEP 9

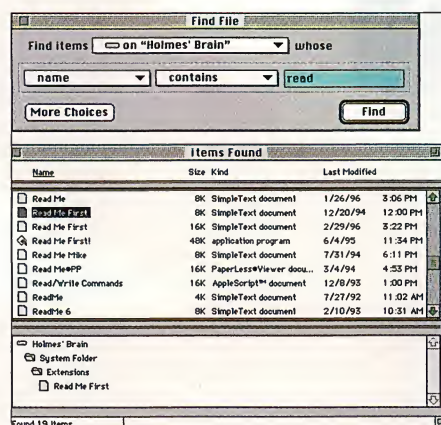
### REDUCE READ ME FILES.

Those SimpleText read-me, help, and info files that come with every piece of Mac software on the planet may weigh in at only 5K or so, but a few K here and a few K there soon add up to real flab. Chances are you'll never read them, so why store them? Use Apple's Find File search engine to locate and eliminate.

Apple Guide is the new evolution of Balloon Help, and it's a much better online help system: context-sensitive, example driven, and multimedia friendly. But if you prefer to tame your Mac without anybody's help—including Apple's—why should your System be burdened with Guide files? Read, then ditch these from the Extensions Folder: Networking Guide

Additions (36K); SimpleText Guide (356K)—who needs a guide to SimpleText, anyway?—Sound/Monitors Guide Additions (266K), Speech Guide Additions (554K), and Open Transport Guide Additions (212K).

**WEIGHT LOST: 1.6MB**



**YOU'LL BE AMAZED** how many Read Me files and copies of SimpleText you have tucked away.

## STEP 10

### STOP THE SPREAD OF SIMPLETEXT.

Fat cells seem to multiply all by themselves, and so do copies of Apple's basic text reader, SimpleText (54K), and its predecessor, TeachText. You'll probably be shocked to find out just how many SimpleTexts are clogging the arteries of your hard drive: it seems like every application hides its own copy somewhere. And that problem isn't just for users: Apple suffers from it, too. The System 7.5.3 Update 2 CD alone contains seven copies of SimpleText. If you think this is taking redundancy a little too far, stash one copy of SimpleText snugly in the System Folder, then root out all the rest (including any copies of TeachText) using Find File.

**WEIGHT LOST: 162K**

## STEP 11

### MINIMIZE MULTIMEDIA.

Sure your Mac is the coolest multimedia machine around, but do you need everything Apple offers? QuickDraw 3D is a good example. If you don't do 3D graphics or play 3D games, don't install it and lose 3.7MB, plus another 5MB in 3D extras. Do the same with QuickDraw GX, Apple's advanced font display

and printing technology. The full install gobbles a whopping 7.9MB. Spare your System until more third parties support it or until the release of Mac OS 8, which will include GX built-in. Finally, there's QuickTime. Everybody needs this, but if you're running an '040 Mac, you don't need QuickTime PowerPlug, which is only for Power Macs: Delete it to lose 635K.

**WEIGHT LOST: 17.3MB**

## STEP 12

### KEEP YOUR SYSTEM FIT.

With a little willpower and our 12-step plan, you've shed a whopping 68.6MB. Now that your System's in shape, keep it that way. Don't fall back into old habits of piling on the fonts and extensions. When you install a new application, do the minimum install and see if it works for you. Inspect any new folders that suddenly appear in your System folder—find out what's in there and if you really need it. Trim the excess on a regular basis. Maintenance fitness is better than binge dieting.

**TOTAL WEIGHT LOST: 68.6MB**

Steven Anzovin, East Coast Editor of the biweekly Computer Entertainment News, is also on the staff of Art in America magazine. He is the author of 22 books. He bought his first Mac to get HyperCard and nine years later still uses it (HyperCard) every day.

## CLEANING UP THE BROWSER MESS

If you spend a lot of time on the Web, your browser has probably put several megabytes of cache files in your Preferences folder. For example, Netscape creates a folder in your Preferences folder and stores a cached version of items from each visited Web page. If you spend much time online, hundreds of these files can collect here, and some of them can become corrupted. Here's what to do:

- Set your browser to only cache a small amount of data, or turn off caching altogether.
- Alternately (if you have a little RAM to spare), create a RAM disk, and use that for your browser's cache.
- Use a utility, called Trash Bag, which moves files from a Trash Bag folder into the Trash. Set your browser to put cache files into the Trash Bag and they'll be emptied into the Trash the next time you start up your Mac.

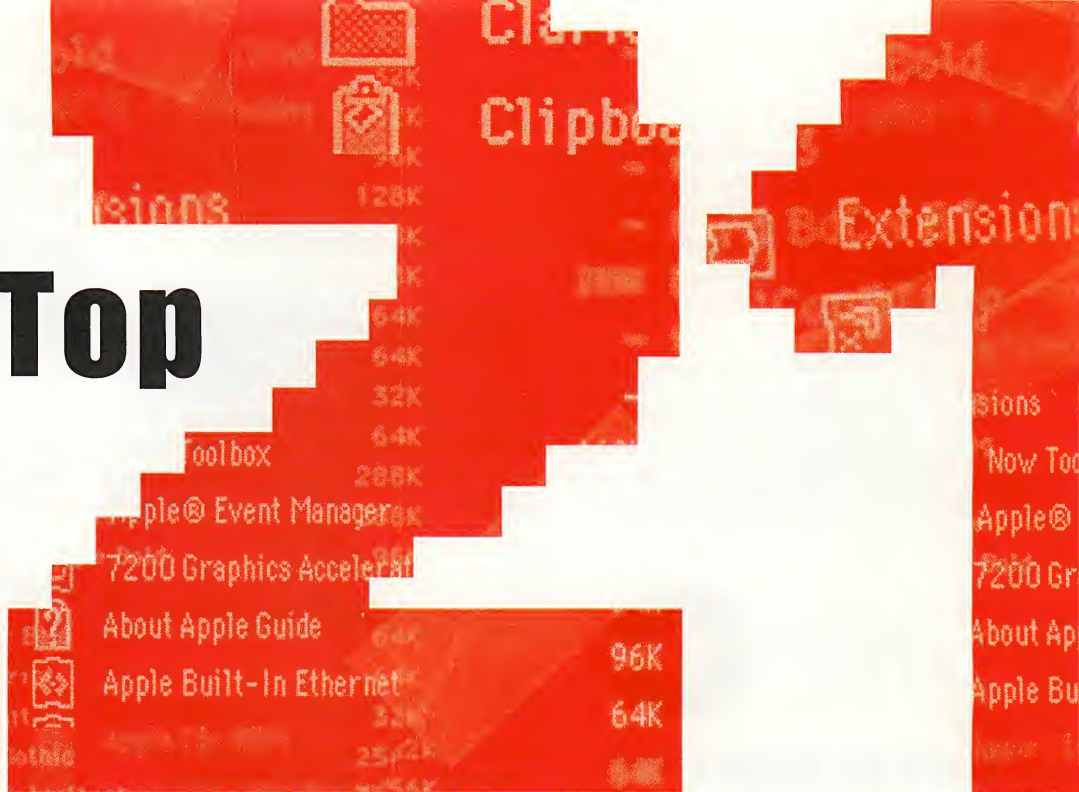




# The Top



FIND THE  
SHAREWARE  
mentioned  
on The Disc.



**T**he Mac is not perfect. Things can go wrong. And things will go wrong. In your quest to solve problems you'll find that zapping the Mac's parameter RAM (PRAM) and rebuilding the Desktop are often touted as miracle cures. Got a problem? Zap the PRAM. Got a bigger problem? Zap the PRAM a few times. The trouble is, while this is an effective remedy for some problems, it won't work for them all. Here's our list of the top things that can go wrong with your Mac and what to do to fix them. And, yes, some of these solutions involve zapping the PRAM and rebuilding the Desktop.

## Symptom 1

When you try to eject a CD, a dialog box tells you that you can't because the CD is being shared.

**Problem:** Your Mac thinks that someone might want to use the CD over the network (even if you haven't given anyone else access), so it won't let it go.

**Solution:** Open the Sharing Setup control panel, and then click Stop in the File Sharing section.

## Symptom 2

The Mac ejects a floppy disk or removable cartridge but then asks for it back.

**Problem:** You used the Eject Disk (Command-E) to eject the disk.

**Solution:** Use Put Away (Command-Y) on the File menu instead. Eject Disk keeps the disk available on the desktop just in case you want to copy files from one floppy disk to another, even though you only have one floppy drive. Put Away makes the Mac

forget all about the disk, just as dragging its icon to the Trash would.

## Symptom 3

Where did all my RAM go? It looks like the System is eating it.

**Problem:** If you're using a pre-Power Mac machine, then you've turned off 32-bit addressing (zapping the PRAM can cause this). The Mac's blinders allow it to only "see" the first 8MB of RAM.

**Solution:** Open the Memory control panel, turn on 32-bit addressing, and restart.

**Problem:** A RAM card has come loose.

**Solution:** Open up your Mac (using proper tools and precautions, especially anti-static measures) and take out—and put back—the SIMMs or RAM cards. If you have two identical SIMMs, try swapping slots. While you're in there, check the Mac's logic board for chips that are askew.

**Problem:** A RAM chip may have failed.

**Solution:** Buy a replacement.



## Symptom 4

Text files exchanged with DOS-based PCs look funny.

**Problem:** PCs use different standards than Macs do for special characters and line breaks.

**Solution:** Use a word processor with a filter that lets you Export or save files in a PC format.

**Solution:** Use Add/Strip, a shareware program that helps you clean up text files for exchange between a Mac and a PC.

**Solution:** Install the Macintosh Easy Open control panel (part of System 7.5). If





# THINGS

## THAT CAN GO WRONG WITH YOUR MAC

top 21

by Raines Cohen

ILLUSTRATIONS BY LLOYD DANGLE

And how to **FIX**,  
**AVOID**, or  
**WORK**  
**AROUND** them



you then double-click on a DOS, Windows, or OS/2 document, Macintosh Easy Open will find all applications that can open the document. Choose an application and Macintosh Easy Open will translate and open the document for you. You may need additional translators, such as those from DataViz.

### Symptom 5

Custom icons are disappearing or applications won't launch when a file belonging to them is double-clicked.

**Problem:** Your Desktop file is corrupted.

**Solution:** Rebuild the Desktop.

### Symptom 6

Your Mac won't boot from a drive: It says it needs a newer System, but you're using the newest one there is.

**Problem:** A System Enabler file that tells the System how to cope with the Mac's personality has been misplaced.

**Solution:** Reinstall the System software.

### Symptom 7

Why can't I share my Zip cartridge or CD-ROM disc?

**Problem:** The Finder is reluctant to

share removable volumes, because it never knows when you're going to take them away, beyond its reach.

**Solution:** Open the Sharing Setup control panel and disable—then re-enable—File Sharing while the volume is on the Desktop. This will fool your Mac into thinking the volume is available all the time. Warning: You won't be able to unmount the volume until you Shut Down or turn off file sharing.

### Symptom 8

My Mac won't let go of a floppy disk or a removable cartridge.

**Problem:** A program on that disk may be open, or a document on that disk (even an invisible temporary file used by some program) is in use. You may get a message saying that some files are in use.

**Solution:** Quit all open applications and then retry.

**Solution:** Restart. Hold down the mouse button while restarting to eject all disks.

### Symptom 9

The Finder won't open a document. It says there's no application available for it.

**Problem:** Each document has a code associating it with the program that created it. When you try to open the document, the Finder calls upon that application to

do it. If the Finder can't find the application, it looks for any application that can handle the type of data in the document. If it can't find any, it gives up.

**Solution:** Perform a Get Info on the document, see if you recognize the icon and whether you know what application to find manually.

**Solution:** Rebuild the Desktop file.

**Solution:** Open an application that can read (or translate) the type of document you have, and then from within the program choose Open and select the document. In some programs (like Microsoft Word), if you hold down the Option key while choosing Open, the program will show all documents and try to open them, so you can at least get something out of the file. (Although you'll probably get a lot of garbage text and lose all formatting.)

**Solution:** Make sure the Macintosh Easy Open control panel is turned on. It tries to make a match, using translation components to extend the range of files each application can open.

**Solution:** If you know which application was used to create the document, try dragging and dropping the file on top of it.

### Symptom 10

Your Mac is booting from a different disk than it usually does.

**Problem:** Your Mac doesn't know which disk it should use as the startup drive.

**Solution:** Make sure you don't have some





odd disc in the CD-ROM drive.

**Solution:** Select the Startup Disk Control Panel and click on the disk from which you want to start. Restart your Mac.

**Solution:** Zap the Parameter RAM.

## Symptom 11

A floppy disk or CD-ROM is stuck in the drive.

**Problem:** The floppy or CD is damaged, the drive is out of alignment or the floppy gods are out to lunch.

**Solution:** Unfold a paper clip and poke it into the little hole next to or underneath the floppy drive. This will manually eject the disk. Warning: Only use this technique in an emergency. If the disk's shutter is bent, this technique can damage your disk drive.

**Solution:** Pop open the lid of your Mac and take a peek inside to make sure the floppy drive's cable is snugly seated at both ends.



## Symptom 12

You can't rename your hard drive.

**Problem:** Your Mac is set to share information on the disk with other Macs on a network (in other words, File Sharing is on). Your Mac won't let you change the disk's name because, if it did, the other Macs wouldn't recognize it.

**Solution:** Turn off File Sharing. Open the Sharing Setup control panel

and click Stop in the File Sharing area.

**Problem:** The disk is locked.

**Solution:** Select the disk, select Get Info (Command-I) from the File menu, and unmark the Locked box.

## Symptom 13

My hard drive is full.

**Problem:** It could be that you've simply put too much stuff on your hard drive. However, it could also be that your Mac is not storing your files efficiently. For example, if you have lots of small files (less than 8K) on a big hard drive (more than 200MB), then chances are you can save some hard drive space simply by changing the way your Mac stores these files.

**Solution:** Back up. Then use disk formatting software such as Apple HD SC Setup to partition the drive into a series of smaller volumes, which will effectively increase the number of small files your drive can hold.

**Solution:** Compress small files together into a single file. You'll save much more space than you'd expect.

## Symptom 14

The colors on my screen look funny.

**Problem:** The screen depth setting has been reduced, so the Mac has to approximate additional colors.

**Solution:** Open the Monitors or Monitors & Sound control panel from the Apple menu and select a higher number of colors (thousands is ideal; millions makes some Macs run slowly).

**Problem:** A speaker is next to the monitor. Its powerful magnet is distorting the image.

**Solution:** Move it—the speaker, that is.

**Problem:** The wires in the back of your Mac are coiled, creating the same magnetic effect as the speakers do.

**Solution:** Uncoil the wires.

## Symptom 15

Your hard drive or external cartridge won't show up in the Finder.

**Problem:** The Finder isn't finding.

**Solution:** Try restarting your Mac.

**Solution:** Use the freeware program, SCSIProbe, to scan the SCSI bus for problems and to attempt to mount drives and cartridges.

**Solution:** Check that all of your SCSI and power cables are securely plugged in and the drive is turned on before you start your Mac.

**Solution:** SCSI is sensitive. Make sure that your SCSI chain is properly terminated, that no

two devices have the same ID number, that the cables are securely connected, that the chain doesn't include powered-off devices, and that it isn't too long. (Added together, SCSI cables should be no more than 22 feet in length.)

## Symptom 16

My cursor is jumpy. It doesn't follow the mouse or trackball as I move it.

**Problem:** The rollers inside the mouse or trackball have collected grease or crumbs.



**Solution:** Clean the rollers. Turn off the Mac, unplug the mouse, and untwist the bottom plate on the mouse (watch out—the mouse

ball will fall out and roll away). Dip a cotton swab in cassette tape-head cleaning solution (or rubbing alcohol) and rub it on the three rollers you see inside the mouseball house. Clean the ball, as well. Think of a trackball as an upside-down mouse and do the above.

**Problem:** The rolling surface may be too slippery.

**Solution:** Get a mouse pad. If you bought your Mac from Apple, but haven't registered it yet, do so—you'll get a free mouse pad.

**Solution:** Change desks.

**Problem:** The mouse may not be plugged in all the way.

**Solution:** Make sure the mouse is plugged in securely. Turn off your Mac and then try plugging the mouse directly into the Mac's Apple Desktop Bus port instead of the keyboard.

**Problem:** The electronics in the mouse may





be flaking out.

**Solution:** Replace the mouse. Look into better mice, graphics tablets, and trackballs.

## Symptom 17

There's a horizontal black line about two thirds of the way down my screen. Is my monitor broken?

**Problem:** All Sony Trinitron monitors have this oddity.

**Solution:** Squint carefully at your next monitor before buying it.

## Symptom 18

The Finder won't let me trash a particular folder.

**Problem:** The folder is locked.

**Solution:** Do a Get Info on the file, uncheck the Locked box and then trash the folder.

**Problem:** The folder may be in use.



**Solution:** Quit any application that uses a file in the folder, and then trash it.

**Solution:** Hold down the Option key while you trash the folder.

**Problem:** The folder may be shared.

**Solution:** Open the Sharing Setup control panel and turn off File Sharing.

**Solution:** From the File menu select "Sharing" and uncheck "Share this item and its contents." Open the folder to make sure that no folders within it are shared (or consult the list of Shared Items in the File Sharing Monitor control panel).

**Problem:** The file system is corrupted.

**Solution:** Create an empty folder on a different disk and give it the same name as the folder you are trying to trash. Replace the problem folder with the new, empty folder.

**Solution:** Use the shareware program, HellFolderFix to throw away a problem folder.

## Symptom 19

The Finder (or an application) is slower than usual.

**Problem:** The Finder has a lot of extra information to track and it needs to reorganize it.

**Solution:** Rebuild the Desktop.

**Problem:** Your Mac has a virus.

**Solution:** Run Disinfectant or a commercial utility such as Symantec AntiVirus for Macintosh to scan your disks for viruses and eradicate them.

**Problem:** The Calculate folder sizes option is turned on. This option requires some of your Mac's processor time in order to calculate the size of your folders. The more folders you have, the more time it requires.

**Solution:** Open the Views control panel and turn off Calculate folder sizes. If you need to know how big a folder is, do a Get Info on it.

**Problem:** Your disk is heavily fragmented. Data is spread all over the place instead of being in nice, neat rows. The Finder must work harder to pick up the pieces when you want a particular file.

**Solution:** Reformat your hard drive, or use a tool like Norton Utilities to defragment it. Be sure to back up your hard drive first.

**Problem:** You have too many files on your hard drive or in a particular folder.

**Solution:** Remove some files from the hard drive. If you have a folder with 1,000 items or more, then remove some of the files from this folder, or create a hierarchy of sub-folders.

## Symptom 20

A particular application is behaving oddly or crashing on my Mac. (Or, if it is well-behaved, it puts up a message about running out of memory.)

**Problem:** The application needs a little more elbow room to roam in RAM.

**Solution:** Perform a Get Info on the application and increase the preferred amount of memory by a few hundred kilobytes or so.

**Problem:** The application is being squeezed by other applications, even if they're not open.

**Solution:** Quit all of your open applications and then try launching the program.

**Solution:** Restart your Mac.

**Problem:** You're using a Power Mac or a PowerPC-based Performa and you've turned off Virtual Memory. As a result, your applications need more real RAM.



**Solution:** Turn on Virtual Memory to trick your applications into thinking they have more RAM. Open the Memory control panel and turn on Virtual Memory. Set it to 1MB more than the actual RAM you have, and restart.

**Problem:** You have an extension conflict.

**Solution:** Hold down the Shift key at startup to temporarily disable extensions and then try using the application. If the problem disappears, you'll need to resolve the conflict.

**Problem:** The application may not be compatible with your Mac or System software.

**Solution:** Contact the vendor to find out which version you should use for your configuration. Ask whether there has been an update or patch to the program since your purchase.

**Problem:** You have a corrupted font.

**Solution:** Find the culprit by removing half your fonts at a time and when the program stops crashing, add the fonts back in, one at a time. Reinstall the corrupted font.

**Solution:** Install a fresh system.

**Problem:** A preferences file is corrupted.

**Solution:** Move the Preferences file for the program into another folder. Usually, the program will create a new Preferences file. You may need to re-enter the program's serial which is often stored in the Preferences file.

**Solution:** Reinstall the application from the original disks.

**Problem:** The program has a bug.

**Solution:** Get the latest version of the application from the vendor.

## Symptom 21

The inside of my Mac sure is dirty.

**Problem:** Think of the Mac, with its fan, as a very expensive air filter; all that dust would have gone into your lungs, but instead, the Mac sacrifices its health to save yours.

**Solution:** Use a can of compressed air (freon-free) to blow dust out, away from moving parts (like the floppy drive) at the front. ☑

BMUG co-founder Raines Cohen is the Online Communications Manager for User Group Connection.



180 and 200 MHz PowerPC 603e RISC microprocessor  
 32K cache (16  
 Integrated floating-point unit  
 Optional High Performance (256K Level 2 cache) on 603e  
 16 MB RAM standard (uses on-chip 8 MB cache and 8 MB external cache)  
 16 MB RAM standard (uses on-chip 8 MB cache and 8 MB external cache)  
 16 MB RAM standard (uses on-chip 8 MB cache and 8 MB external cache)

or faster, 1K or 2K  
 1 on 64-bit PPC bus  
 Apple SuperDrive floppy disk drive  
 Apple TV/Video System (optional)  
 Apple Desktop Bus (ADB) port  
 Printer port  
 SCSI port  
 Sound input port  
 Sound output

The optional Apple Video System lets users view and capture live video in a window.

and access covers. Two, industry-standard PCI slots are included for adding additional capabilities. Apple PC Compatibility: Full DOS/Windows compatibility; the Avid DVX video system; monitor, or a 3D accelerator card.

extension bay (and front panel)

disk drive (and front panel)

control sensor

hard disk drive

Headphone Jack

processors:

Four PowerPC 603e RISC microprocessors (740 MHz)

Four PowerPC 603e RISC microprocessors (740 MHz)

Four PowerPC 603e RISC microprocessors (740 MHz)

Four PowerPC 603e RISC microprocessors (740 MHz)

50 watt power supply

design: Mark Allen

Panel

Standby power button

Monitor video port

Apple Desktop Bus (ADB) port

Printer port

SCSI port

Sound input port

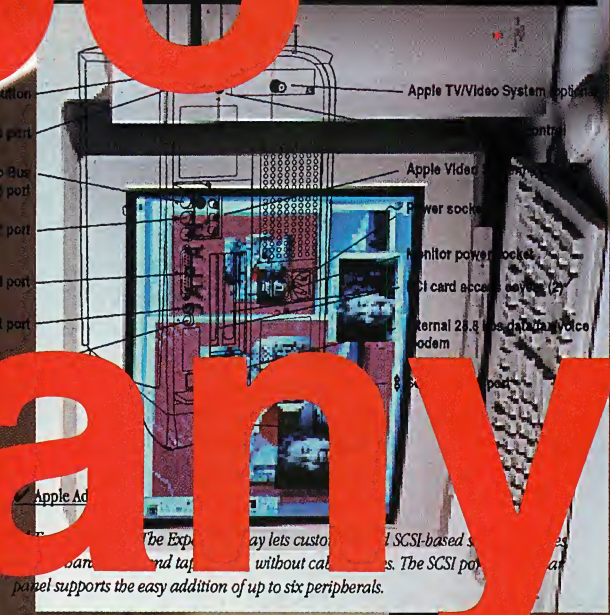
Sound output

Apple Ad

Sound control buttons

Power-on light

Headphone Jack



The Expressway lets customers add SCSI-based storage and tape drives without cables. The SCSI port on the front panel supports the easy addition of up to six peripherals.

- ✓ CD-ROM drive. The 8X speed CD-ROM drive yields fast, reliable data transfer.
- ✓ Floppy disk drive. The floppy drive can read and write standard DOS/Windows floppy disks.
- ✓ Internal speaker. The internal speaker can be used alone or with external speakers, as a subwoofer for extended bass response, and for stereo sound.

High Performance, quality PowerPC microprocessors make your system scream

- 225 MHz PowerPC 604e RISC microprocessor with integrated floating-point processor and 64K on-chip cache
- CPU upgradeability via CPU daughter card

Secondary Cache

- Increases performance by up to 40%
- 1 MB Level-2 Cache

Memory

- Allows you to run more applications faster
- Up to 4 GB of memory (expandable to 8 GB)
- 16-bit data bus
- 16-bit address bus
- 16-bit clock speed
- 16-bit cache

SCSI In

- 16-bit data bus
- 16-bit address bus
- 16-bit clock speed
- 16-bit cache

SCSI Ex

- 16-bit data bus
- 16-bit address bus
- 16-bit clock speed
- 16-bit cache

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- 16-bit data bus
- 16-bit address bus
- 16-bit clock speed
- 16-bit cache

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- Four PowerPC 604e RISC microprocessors (740 MHz)
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# Confused by all the new Macs? Here's what we figured out.

by David Reynolds

"They say that choice is freedom. I'm so free I'm stuck in therapy."  
—Joe Jackson

**W**hat the hell happened? As part of its company makeover, Apple announced it would simplify its product line. And, as promised, the company has cut down its overall number of models. Yet, things remain as confusing as ever.

Apple is introducing one new Performa, making changes to three existing Power Macs this summer, and cutting all but two of the remaining Performas (leaving three Performas and four Power Macs). While Apple's lineup is indeed simpler, simplification hasn't caught on as a trend. Daystar, Power Computing, and Umax have several new Mac clones. Altogether, the four Mac manufacturers introduced 22 new models and configurations, as well as four new product lines in the past month. These machines are based upon three different types of chips, some with new video systems, others with dual (and quad) processors, most with larger caches, and one even comes with subwoofers. Yikes!

Before you make that now-infamous "Home Alone" face and start running for the exit door of your local computer store, read through our guide to the fall Mac fashion lineup. Learn new tidbits about Macs: Performas are no longer the under-powered Macs they once were; many new Macs sport processors running at 200MHz or higher; and Daystar isn't the only vendor to make multiprocessing Macs. Here's the lowdown on the current Mac and Mac compatible lineup (in rough order of price) as well as information on what all the specs mean and why you should—or shouldn't—care about multiprocessing.

## Our Favorite Machines

You want a quick answer? We've got a quick answer. Here are our favorites among the new Macs and Mac compatibles:

### Sheer Speed

**PowerTower Pro 225:** Load this big box up with your favorite peripherals and scads of memory, and get out of the way. This is one fast mother. With a 604e chip running at 225MHz, there ain't a desktop computer on the planet that can beat it. Stand back—it burns!

### Bargain Central

**Power Macintosh 7600:** This is one sweet box. It has just the right combination of power, features, expansion options, and price. Built-in A/V capabilities make it perfect for amateur videographers as well as professional multimedia developers.

### El Cheapo

**PowerBase 180:** As the cheapest Mac compatible currently in production—under \$1,500—the PowerBase 180 will put a fast PowerPC-based machine on your desktop for less than you'd spend for a used Yugo. And it'll be a lot safer to drive.

### Just Too Cool

**Performa 6400:** This little tower with the big charisma isn't the cheapest or fastest Mac around, but once you see it.... We're awed by its exterior design and by the multitude of options. This box's sound is impressive. Play Marathon on it once, and you're hooked.



\$@!#\*

Apple D  
Apple/D  
PERmac

water power supply...  
not included

# Systems



# Apple

## PowerBase

The PowerBase line is aimed at the low-end of the market. But don't confuse "low-end" with "low-quality."

The PowerBase 240's 603e processor is nearly the equivalent of a 180MHz 604—the same chip as the one in the old PowerTower 180, which (just last June) was the fastest single-processor Mac. The PowerBase uses a fast IDE hard drive and a PS/2 keyboard port that lets you connect some PC peripherals.

### Vital Statistics:

**Processor:** 603e at 180MHz, 200MHz, or 240MHz

**Level 2 Cache:** 512K

**PCI Slots:** 3

**Drives:** 1.2GB hard drive (minimum), 8X CD-ROM

**DIMM Slots:** 3

**RAM:** 16MB standard; 160MB maximum

**Modem:** None

**Video:** 2MB VRAM standard; 4MB maximum  
**Price:** \$1,495 to \$2,195

**Wanted By:** Bargain hunters who want extra muscle for their money and by Mac heads who like the idea of custom configuring a machine with more RAM, a bigger hard drive, or other peripherals such as a Zip drive.

**Avoid If:** You really want that subwoofer in the Performa 6400 or any of that machine's video options and have the cash to prove it.

**Biggest Marketing Play:** Although 240MHz sounds really fast, the chip (like many other fast PowerPC chips) is limited by bus speed.

**The Drool Factor:** Buy a 180MHz PowerPC-based Mac compatible for under \$1,500?



## Power Macintosh 7200/120

The Power Mac 7200/120 is the oldest Power Mac in Apple's lineup—and it shows. This is the only Mac available that still uses a first generation RISC processor, the PowerPC 601. And, at \$2,299 (without a level 2 cache), the price is too high compared to other offerings. Granted, the Power Mac 7200 is expandable and upgradable, but we still wish Apple would put it out of its misery.

### Vital Statistics:

**Processor:** 601 at 120MHz

**Level 2 Cache:** Optional 256K

**PCI Slots:** 3

**Drives:** 1.2GB hard drive (minimum), 8X CD-ROM

**DIMM Slots:** 4

**RAM:** 16MB standard; 256MB maximum

**Modem:** None



**Video:** 1MB VRAM standard; 4MB maximum  
**Price:** \$2,299

**Wanted By:** Those looking for Apple's least expensive PCI-based Power Macintosh.

**Avoid If:** You want a Mac with the latest, greatest processor.

**Biggest Marketing Play:** A new PCI-based Mac with the 7x00 series designator should have leapt to a 603 or 604 PowerPC chip.

**The Drool Factor:** The Power Mac 7200's bus runs at 60MHz, meaning that this Mac can get more oomph out of its chip.

## Performa 6300 Series

Don't discount the Performa 6300 series just because you think anything with "Performa" in the name has got to be a wimpy machine. The 6300 sports a 100MHz 603e

processor, while the 6320 has a 120MHz 603e processor and A/V capabilities. These Performas have lots of storage and memory, and even a fast modem. They're also the cheapest Mac/monitor combo you can get from Apple.

### Vital Statistics:

**Processor:** 603e at 100MHz or 120MHz

**Level 2 Cache:** 256K

**Slots:** 1 LC Processor-direct slot, 1

Communications slot, 1 Video slot

**Drives:** 1.2GB hard drive (minimum), 4X CD-ROM drive

**SIMM slots:** 2

**RAM:** 16MB standard, 64MB maximum

**Modem:** 28.8Kbps

**Video:** 1MB of VRAM

**Price:** \$2,279 to \$2,499 (including monitor)

**Wanted By:** People who want a reasonably priced, peppy Apple Macintosh, complete with software and monitor.

**Avoid If:** You plan on installing a second internal hard drive, need a lot of memory, want to add a 17-inch or larger monitor, or think you'll want to add extra functionality via a PCI card.

**Biggest Marketing Play:** The addition of the letters CD after the Performa 6300CD model number to indicate that it has a CD-ROM drive and the inclusion of America Online as a way to access the Internet.

**The Drool Factor:** Special software, microphone, and modem let you use your



Performa 6300 as a speaker phone and answering machine. An optional video card turns your Mac into a TV and also lets you capture video. Pre-installed software includes Lode Runner and F/A-18. Very Cool.

## PowerCenter

The aptly named PowerCenter fits neatly between Power Computing's PowerBase and PowerTower machines in performance and features. These Mac compatibles offer a solid bargain; unfortunately, they don't offer anything out-of-the-ordinary.

### Vital Statistics:

**Processor:** 604 at 132MHz or 150MHz

**Level 2 Cache:** 512K

**PCI Slots:** 3

**Drives:** 1GB hard drive (minimum), 4X CD-ROM

**DIMM Slots:** 4

**RAM:** 16MB standard; 256MB maximum

**Modem:** None

**Video:** 1MB VRAM standard; 4MB maximum

**Price:** \$1,895 to \$2,480

**Wanted By:** People who foam at the mouth for a 604-based Mac compatible but don't want to drain their bank accounts to get it.

**Avoid If:** You want to do heavy-duty multimedia work or you just can't stand the thought of having a 4X CD-ROM drive in a new Mac.

**Biggest Marketing Play:** There's not much hype here.

**The Drool Factor:** Expandability and a PowerPC 604 chip. It's a practical Mac.



## Performa 6400

This funky, high-end Performa has a lot of personality—and it's a personality to love. This is the way Macs ought to be.

The Performa 6400 is powered by a 180MHz or 200MHz 603ev processor, the functional equivalent of a Pentium running at the same speed; or, all other things being equal, a PowerPC 604 running at around 130MHz (for the 180MHz version) or almost 150MHz (for the 200MHz version).



# Umax



### Vital Statistics:

**Processor:** 603ev at 180MHz and 200MHz

**Level 2 Cache:** Optional 256K

**PCI Slots:** 2

**Drives:** 1.6GB hard drive (minimum),  
8X CD-ROM

**DIMM Slots:** 2

**RAM:** 16MB standard; 136MB maximum

**Modem:** 28.8Kbps

**Video:** 1MB of VRAM; not upgradable

**Price:** \$2,499 to \$2,799

**Wanted By:** Enthusiasts craving a fast, mid-range Apple-branded Mac with lots of neat gadgets like SRS 3D Surround Sound, an optional TV tuner, and an optional video capture card. Also great for gamers who are dead-serious about the latest 3D games.

**Avoid If:** You need to go beyond one internal SCSI bay, 136MB of RAM, or two short PCI slots, or if you believe the optional L2 cache shouldn't be optional.

**Biggest Marketing Ploy:** They needed a tower case for this? There must be more empty space in here than in Fabio's head.

**The Drool Factor:** Surround Sound, a thumpin' subwoofer speaker in the bottom of the tower case, and 16-bit stereo in are very cool features. Great legs and a curvy top also help make this one sexy box.

### PowerTower 166

When the PowerTower 166 first appeared, we were amazed by its 166MHz speed and tower case. But now, compared to the Performa 6400, the PowerTower 166 is, well, lackluster. Sure, it's still a solid machine, fast, and expandable, but it lacks the pizzazz of Apple's comparably priced—though slightly slower—tower.



### Vital Statistics:

**Processor:** 604 at 166MHz

**Level 2 Cache:** 512K

**PCI Slots:** 3

**Drives:** 2GB hard drive (minimum),  
4X CD-ROM

**DIMM Slots:** 4

**RAM:** 16MB standard; 256MB maximum

**Video:** 2MB VRAM standard; 4MB maximum

**Modem:** None

**Price:** \$2,895

**Wanted By:** Those who want tower-like performance in an actual, roomy tower box for under \$3,000.

**Avoid If:** You want a really, really fast tower (like the Power Mac 9500 or PowerTower Pro) or a really cool one (the Performa 6400) instead.

**Biggest Marketing Ploy:** Hard to find a marketing ploy on Power Computing Macs. They are what they are, and that's all what they are.

**The Drool Factor:** Enough power for most desktop users at a price that's not totally insane. Room inside to grow.

## Know Your Chips

**A** PowerPC processor running at 200MHz! Great! Where do I sign up? Steady there—a processor running at 200MHz may not be twice as fast as one running at 100MHz.

### What? Impossible, you say? Not so.

There are currently six PowerPC processors that you may run across when searching for a new or used PowerPC-based Mac: the PowerPC 601, 603, 603e, 603ev, 604, and 604e. And while you might think that the higher the chip number, the faster (as was the case with the 680x0 family), that's not so. For example, the 603 is slower than the 601. Here, then, is a quick primer on processors.

**601:** This chip is a first generation RISC processor. Used in the original Power Macs, the 601 kicked off the move from 680x0-based Macs. It is also seen in a slightly improved version, the 601+. Currently, the only shipping Mac that uses the PowerPC 601 processor is the Power Mac 7200/120.

**603:** Slower than the 601, the 603 is also much smaller and requires less power which makes it ideal for laptops and low-end desktop Macs. The 603 incorporates an 8K instruction cache and an 8K data cache that hold on to information until the processor is ready to use it. Thanks to the caches, the processor gets a steady stream of data. None of the Macs currently being sold new use the 603 processor.

**603e:** The 603e is speedier than the 603 and is roughly equivalent to a Pentium partly because its instruction and data caches have been doubled to 16K each. Like its sibling chip, the 603e doesn't consume much power, earning it a place in laptops. Speedwise, it tops out at 140MHz.

**603ev:** Also known as a 603p, the 603ev is, megahertz-for-megahertz, about as fast as a 601. Otherwise similar to the 603e, the 603ev has been accelerated to 240MHz, and engineers say that 300MHz is not out of the question. Ever seen a Pentium-based computer run that fast? Didn't think so.

**604:** The 604 is the newest chip architecture to go into the Mac. Aside from being faster, the 604 includes whopping 32K data and instruction caches. The 604 is used mainly in higher performance desktop Macintoshes. It runs about 1.35 times faster than the 601. Note that some specialized software won't run on a 603-based processor, instead requiring a 601 or a 604.

**604e:** This is the newest and fastest chip to power a Mac—roughly equivalent to a Pentium Pro running at the same clock speed. It gets some of its speed gain from increasing the 604's data and instruction cache to 64K. The 604e is also damn fast: 225MHz to date, and faster than any Pentium Pro-based machine.



601



603e



604e

Useless Tidbit

Maximum altitude at which  
Macintoshes should be  
operated: 10,000 feet  
above sea level.



# Reality Check

\*#@!\*

**A**lthough it's fun to boast "I've got six PCI slots, eight DIMM slots, and six expansion bays. What do you have?", how much expansion space do you really need? Here's a look at where the hype separates from the reality.

## PCI Slots

Can anyone think of more than two PCI cards they'd like to put in their Macs? Anyone? Anyone? Bueller? Unless you're a heavy-duty prepress kind of Mac person, you don't need more than two slots. Here's what you might put there:

- Video card for a second monitor
- 3D acceleration card (although this function may soon be built into video cards)
- A/V card (if your Mac isn't A/V capable already)
- Ultra SCSI for RAID array (assuming you've got big bucks)

## DIMM Slots

Say your Mac ships with 16MB of RAM. Do you really need more than that? If so, say you buy one 16MB card for your DIMM slot. Then you've got 32MB of RAM. And who needs more than 32MB of physical memory? Say you do. If you only have two DIMM slots, and both have 16MB cards in them, and you want to add 8MB of more RAM, you'll have to get rid of one of your 16MB cards and buy a 24MB card. Expensive. A better alternative would be to make sure you have four DIMM slots, which should give you enough memory expansion options.

## Expansion Bays

Expansion bays let you add storage devices inside your Mac. This is helpful if you want to keep clutter off your desk or if you want to go beyond the seven-peripheral limit of your external SCSI port. So how many bays should you have? Ever have more than two or three hard drives? Maybe you do, and, if you've got some extra money, an internal Zip or Jaz drive. Two bays for drives. That's all you're likely to need—and most people can get away with no extra bays at all.

## Level 2 Cache

You want one. No question about it. For most Macs, a 256K cache is sufficient. If you really jones after speed, and if your Mac has a fast PowerPC 604 processor, then you might consider a 512K or even 1MB cache. Remember though, you won't see dramatic speed gains beyond a 256K L2 cache.

# Apple

## Power Macintosh 7600

Apple's zippy low-end multimedia Power Mac just got a little speedier. The company has dropped in a 132MHz 604 processor to replace the 120MHz chip of earlier days, and the CD-ROM drive has been upgraded to 8X.



### Vital Statistics:

**Processor:** 604 at 132MHz

**Level 2 Cache:** 256K

**PCI Slots:** 3

**Drives:** 1.2GB hard drive (minimum), 8X CD-ROM

**DIMM Slots:** 8

**RAM:** 16MB standard; 512MB maximum

**Modem:** None

**Video:** 2MB VRAM standard; 4MB maximum, A/V capabilities

**Price:** \$2,999

**Wanted By:** Multimedia hounds working without a Hollywood budget and Mac loyalists who want a fast, expandable, upgradable Apple-brand Mac at a reasonable cost. Does it sound like we like this Mac? We do.

**Avoid If:** You don't need the multimedia capabilities. Spend the money you'll save on more RAM or hard drive space.

**Biggest Marketing Ploy:** Gosh, we can't think of one.

**The Drool Factor:** Indulge your fondest audio and video desires with a Power Mac built to please. Besides, this Mac can support a 250MHz processor, should one be made available for it.

## PowerTower

Now these are towers.

The PowerTower line has been tweaked to include the new 604e chips in two of its high-end models.

These new

PowerTowers offer a

lot of room to grow,

Power Mac 9500-class performance, and an awesome price.

### Vital Statistics:

**Processor:** 604e at 180MHz or 200MHz

**Level 2 Cache:** 512K

**PCI Slots:** 3



**Drives:** 2GB hard drive (minimum), 4X CD-ROM drive

**DIMM Slots:** 4

**RAM:** 16MB standard; 512MB maximum

**Modem:** None

**Video:** 2MB VRAM standard; 4MB maximum

**Price:** \$3,295 to \$3,595

**Wanted By:** Those who want a lot of power and expandability in their Mac compatible while staying on a budget.

**Avoid If:** Money is no object. At that point, you may as well go all the way to the PowerTower Pro or the Power Mac 9500.

**Biggest Marketing Ploy:** How many drive bays do you need?

**The Drool Factor:** A fast processor and big cache make this one mean machine. And, as with all Power Computing systems, you can get a Zip drive and a Jaz drive built in.

## Power Macintosh 8500

The top-of-the-line multimedia Mac from Apple also got a shot of adrenaline. Now sporting two different processors from which to choose, the Power Mac 8500/150 uses a 604 and the 8500/180 uses a 604e. It also has one of the new 8X CD-ROM drives.



### Vital Statistics:

**Processor:** 604 at 150MHz or 604e at 180MHz

**Level 2 Cache:** 256K

**PCI Slots:** 3

**Drives:** 1.2GB hard drive (minimum), 8X CD-ROM

**DIMM Slots:** 8

**RAM:** 16MB standard (150MHz) or 32MB standard (180MHz); 136MB maximum

**Modem:** None

**Video:** 2MB VRAM standard; 4MB maximum, 64-bit graphics subsystem

**Price:** \$3,599 to \$4,499

**Wanted By:** Multimedia mavens (with money) for whom 132MHz is just not enough.

**Avoid If:** You want a high-end machine but don't want to do audio/visual work.

**Biggest Marketing Ploy:** Including the 604e chip only on the 180MHz model. The 604e should be in both configurations.

**The Drool Factor:** This is a high-class, expandable, multimedia Mac, in some ways reminiscent of the Quadra 840AV, a Mac that many multimedia producers still swear by.



# Umax



# Are Two Processors Better Than One?

**F**or those who have very specialized needs (and all 20 of you know who you are), Apple and Daystar make machines that use two or four microprocessors working in parallel to get the job done, and some Mac compatibles from Umax have a slot for a second processor. Although multiple processors don't do much for overall speed or system response time (if everyone used a multiprocessor Mac, and Apple rewrote the Mac OS to take advantage of that, then it might be a different story), they can do amazing things in certain situations, provided the software has been written to take advantage of more than one microprocessor.

When all the multiprocessor planets and stars are aligned correctly, the speed gains can be sizable. Daystar Digital makes several multi-processor Mac compatibles. These cutting edge beasts range from the Genesis MP 360+ (which uses two 180MHz 604e processors) to the Genesis MP 800+ (which uses four 200MHz 604e processors). A Genesis MP running the multiprocessor-aware version of Photoshop whups butt on even an SGI Indy, and that's not easy. Photoshop isn't the only application that shows blazing speed on Genesis Macs. Using the multiprocessor-aware version of AfterEffects, a Genesis MP benchmarks nearly four times faster than a single-processor Power Macintosh 9500 (the older version with the 150MHz 604).

Multiprocessor Macs aren't cheap, typically running from \$5,000 to \$15,000. The lack of multiprocessor-aware software isn't helping the cause any either. Apple is changing this by committing to multiprocessor options across the Power Macintosh line in 1997 and by promoting multiprocessor-aware software development. If multiprocessing makes it into OS 8, look for some swift possibilities.

## S900 L

It's almost easy to discount the S900 L, the first clone entry from Umax, in all the hoopla over new towers from Apple and Power Computing. Still, this clean machine's a winner thanks to its solid design and Umax's attention to detail.



### Vital Statistics:

**Processor:** 604 at 150MHz

**Level 2 Cache:** 512K

**PCI Slots:** 6

**Drives:** 1GB hard drive (minimum),

6.7X CD-ROM

**DIMM Slots:** 8

**RAM:** 16MB standard; 1GB maximum

**Modem:** None

**Video:** 4MB standard

**Price:** \$3,995

**Wanted By:** Those who want to buy an elegant, fast Mac compatible that isn't made by Apple.

**Avoid If:** You long for top-of-the-line speed.

**Biggest Marketing Play:** Six PCI slots—who really needs that much expandability?

**The Drool Factor:** The S900 L has a second processor slot if you want to take the plunge into multiprocessing.

## PowerTower Pro 225

At least for the next few hours, the PowerTower Pro line boasts the fastest single-processor personal computer on the

planet—the PowerTower Pro 225. Faster than the fastest Mac and faster than the fastest PC, it's a screamer. It's just plain fast. The PowerTower Pro 180 and 200 are no slouches, either, and the line's 1MB Level 2 caches ensure their processors get a steady stream of data to crunch. Fast, fast, fast.

### Vital Statistics:

**Processor:** 604e at 180MHz, 200MHz, or 225MHz

**Level 2 Cache:** 1MB

**PCI Slots:** 6

**Drives:** 2GB hard drive (minimum),

8X CD-ROM drive

**DIMM Slots:** 8

**RAM:** 16MB RAM standard; 1GB maximum

**Modem:** None

**Video:** 2MB VRAM, 4MB maximum

**Price:** \$4,195 to \$4,995

**Wanted By:** Big-time power users, graphics professionals, or anyone who wants to play Marathon the way it was meant to be played.

**Avoid If:** You aren't rich. Although the price is right for the power, the stickers on these machines put them out of reach of the average worker bee.

**Biggest Marketing Play:** 6 PCI slots. Come on. Can you even buy six different kinds of PCI cards?

**The Drool Factor:** So fast, Descent II will make you hurl if you play it on one of these. Nine drive bays can be crammed with all kinds of power peripherals.



## Power Macintosh 9500



Also sporting some speed boosts, the Power Mac 9500 now comes in two very different flavors: one runs the 604e processor at 200MHz, and the other runs two (that's right,

two) 604e chips at 180MHz each. Both are fast Macs, but the multiprocessor Power Mac 9500/180MP screams with multiprocessor-aware software.

### Vital Statistics:

**Processor:** 604e at 200MHz or two 604e processors at 180MHz

**Level 2 Cache:** 512K

**PCI Slots:** 6

**Drives:** 2GB hard drive (minimum),

8X CD-ROM

**DIMM Slots:** 12

**RAM:** 32MB standard; 768MB maximum

**Modem:** None

**Video:** 2MB VRAM standard; 4MB maximum

**Price:** \$4,899 to \$5,699

**Wanted By:** Those who need Apple's fastest, most expandable Mac.

**Avoid If:** You have a serious budget problem or are prone to wild spending sprees.

**Biggest Marketing Play:** Right now, there's not much software that can take advantage of multiple processors.

**The Drool Factor:** It's big. It's mean. It's muscular. ☒

## More from

# Umax



Umax recently acquired the SuperMac name from Radius and

has been busy building new machines. Two new SuperMac models—Typhoon and Riptide—debuted in early August. At press time, here's what we knew about them.

• **SuperMac Typhoon:** A low-end Mac compatible with a 140MHz 603e processor and an L2 cache. It includes 16MB of RAM plus has two empty DIMM slots. There's a 1.2GB hard drive and a 4X CD-ROM drive.

• **SuperMac Riptide:** It sits at the high end of the mid-range line. It uses a 133MHz PowerPC 604 processor and has a 512K L2 cache. It includes 16MB of RAM and has 8 DIMM slots. Plus, it's got 4 PCI slots, a 2GB hard drive and an 8X CD-ROM drive.





# reviews

Kai's Power Goo, MechWarrior 2, the new Descent, and serious stuff, too.

## Performa 6400

**DEVELOPER:** Apple Computer

**CONTACT:** 408-996-1010; <http://www.apple.com>

**PRICE:** \$2,499 to \$2,799



FREAKIN'  
AWESOME



SPIFFY



YEA,  
WHATEVER



BLECH!

**A** Performa with power— isn't that an oxymoron? Not when it's the Performa 6400. It delivers high performance (it outperforms the 7500/100 nearly two-to-one), comes in a curvy minitower, and includes incredible A/V options. We've fallen in love with the Performa 6400 (even the skeptical). After all, putting a small board (only two PCI slots and 2 DIMM slots) in a tower seems excessive. Standard equipment on the Performa 6400 is a PowerPC 603e running at 180MHz or 200MHz, 2 PCI slots, 2 DIMM slots, 1.6GB hard drive, 16MB of RAM, 28.8Kbps modem and 16-bit audio input and output. Like all Performas, the 6400 comes with keyboard, mouse, all the right cables, and a ton of bundled software. Unlike other Performas, the 6400 ships "headless"—that is, without a monitor.

The Performa 6400 charmed the socks off us from the moment it arrived. Here's why it's the MacAddict Editorial Corral's Favorite New Mac:

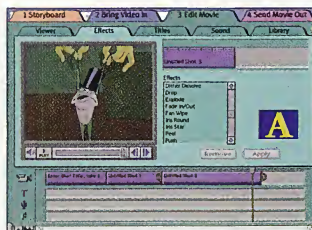
**More charisma than Denzel Washington.** A lot of nice touches add up to another winner in the Performa 6400. It does great sound. Besides supporting 16-bit audio both in and out, it has built in SRS Surround Sound on the logic board. Tucked into the base of the tower is a subwoofer that pumps up the bass. The front panel has an earphone jack, ideal for plugging in when you want to listen to your Mac, but nobody else in the room does. It also has a front-mounted manual volume control and an infrared sensor for a remote control. The case design attracts its own share of admirers. With its curvy legs and top, it can't be mistaken for other Macs (clones or otherwise).

**It's got legs.** Literally. The Performa 6400 has cute, curvy legs that leave room to pick it up. This is important because the Performa 6400 is heavier than one might expect, and it's great to have a place to hold on when moving the tower. The legs also give the subwoofer room to pump out those low-frequency notes. The Performa 6400 also has the right combination of power and charm to last a while in the fast-moving Mac arena.

**Awesome options.** The A/V options make the Performa 6400 an exceptional Mac. The Apple Video System (\$109), brings live television right into your Mac. It's cable-



THE TOWER FEEL GOOD FAN CLUB: not bad for a 603e-based Performa.



**WITH AVID CINEMA,** storyboard-ing, editing video, and adding special effects (including wipes, transitions, and text over video) is easy and intuitive—and fun.

ready, so you can watch your favorite TV shows while you

work. The Video System also accepts composite video and S-video input, so you can play with taped footage straight from your VCR, or record live footage from your video camera. The Apple TV/FM Radio System (around \$150), which does all of the above, also lets you listen to FM radio on your Mac. Avid Cinema's an additional \$459. It's a PCI card that comes with digital video editing software. Avid Cinema (also available for other PCI-based Macs) lets you create transitions and storyboards, and lets you output your creations in QuickTime format or dump your video straight to tape.

**The Verdict.** The Performa 6400 is the best machine for the mid-range Mac maniac to come out of Apple in some time. It combines power, a great software bundle (including PhotoDeluxe, Descent and Web Workshop), and A/V options to deliver a lot of value. To get the most from your money, be sure to buy the optional 256K level 2 cache (it should have been standard equipment) and the TV/FM tuner, which will add about \$250 to the total bill. It's well worth the price. If you're going to do any video editing, consider the extra \$459 for Avid Cinema. Added up, this Mac will do almost anything you want. —David Reynolds

## Speed Rush

- In two tests using SpeedTester 2.0, the Performa 6400 beats the Power Macintosh 7500/100 by nearly two-to-one (as one would expect from a nearly equivalent processor running twice as fast).
- We also tested the Performa 6400 with SimCity 2000 by running a city of 88,000 through 20 years at SimCity's highest speed. The Performa 6400 was over 50 percent faster than the Power Macintosh 7500/100 in this test, which measures more than just processor speed.

**GOOD NEWS:** Sexy case. Screaming fast 180MHz or 200MHz 603e chip. Great options including 16-bit audio in/out and Avid Cinemania video card.

**BAD NEWS:** Expansion options limited by 2 PCI slots (7" each) and 2 DIMM slots. Level 2 cache is optional.





# reviews



reviews

## YoYo

**DEVELOPER:** Big Island Communications

**CONTACT:** 408-342-0502; <http://www.big-island.com>

**PRICE:** \$135 (street)

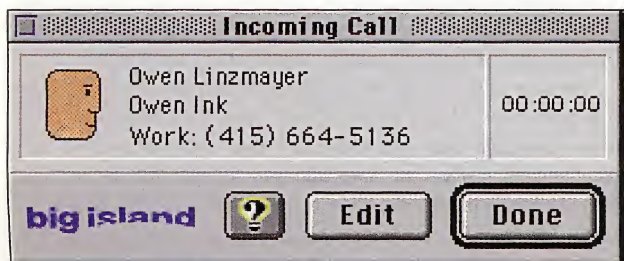
**REQUIREMENTS:** Any Mac except Mac Plus, SE, or Classic, System 7.01 or later, 5MB of RAM, 2.5MB of hard disk space

**W**e've been waiting and waiting (rather impatiently, too) for YoYo, a space age-looking gadget that promises to perform "cool tricks for your telephone." It's supposed to provide on-screen Caller ID notification, track incoming and outgoing calls, play unique sound effects for individual callers, block unwanted calls, and send information to wireless pagers. But while YoYo does all of these things to a degree, it's questionable whether the current incarnation delivers enough practical value to justify its price.

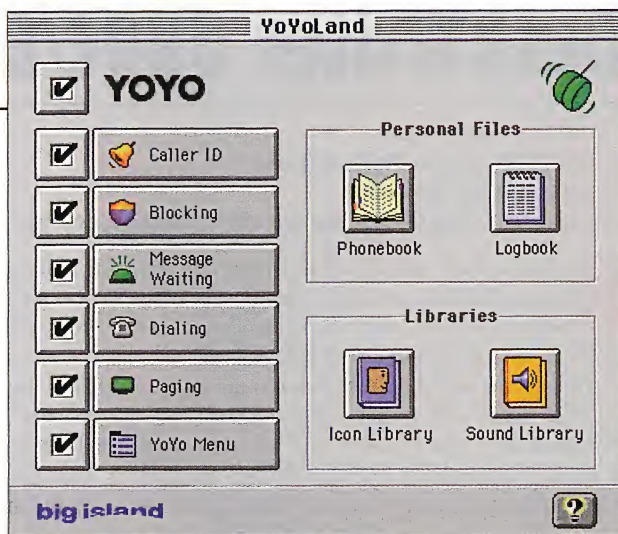
YoYo is slightly larger than a pack of cigarettes, with indicator lights on the front, and ports for connecting to a phone line and telephone on the back, as well as a hard-wired ADB cable and connector for the power transformer. The YoYo doesn't need a power switch since it gathers Caller ID information even when the Mac is off. However, to see who has called, you must turn on the Mac and wait for the Finder to appear. This major pain could have been avoided had Big Island included a display like those found on even the simplest Caller ID devices.

Caller ID services are supposed to provide subscribers with the phone number (and in some cases, the name) of a caller. (Most Caller ID services run about \$5 to \$9 per month.) YoYo displays this information in a little window, so in theory you can tell who is calling before you answer. In practice, half the calls are unidentifiable for reasons beyond YoYo's control: Some callers intentionally block the transmission of their Caller ID info; smaller phone companies may not send the required info; and calls coming from certain types of phones (international, cellular, office PBX systems, and pay phones) aren't yet fully integrated into the Caller ID system.

When a call comes in, YoYo automatically creates a log entry and presents a small window which either shows the caller's name or gives you the option of adding them to the Phonebook. YoYo's Phonebook is a stripped-down personal information manager. Unfortunately, it's so stripped down that you can't rely on it



**YOYO CAN TELL WHO'S CALLING BEFORE YOU ANSWER THE PHONE,** provided that Caller ID information is transmitted properly, which happens only half the time.



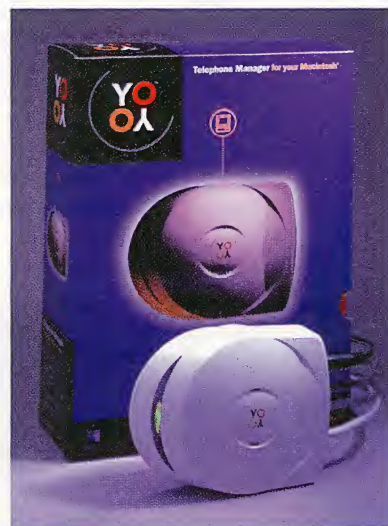
**ALL OF YOYO'S FEATURES CAN BE CONFIGURED** using this well-designed and intuitive program.

exclusively to track all of your contacts. Instead, count on buying a stand-alone PIM (ACT, FileMaker Pro, Now Contact, or TouchBase Pro) that YoYo can communicate with via AppleScript.

Armed with a fleshed-out Phonebook, YoYo's bells and whistles really shine. You can assign unique sound effects to individual callers ("Oh no, Mr. Bill" when your ex calls), so you can hear who is calling even when you're away from your Mac. Distinctive ringing is cute, but the novelty wears off quickly. More practical—if you have a problem with unwanted phone calls—is the ability to block calls based upon time of day or phone number.

Perhaps the most useful and unique feature of YoYo is paging. Rather than constantly checking your answering machine for important messages when you are away from your phone, you can configure YoYo to send the Caller ID information to your pager, all without the caller's knowledge. Also, you can use YoYo to send messages to anyone in your Phonebook who has a pager.

If the telephone is a major part of your life, YoYo's unique features may provide enough value to justify its price. But consider the alternatives first. Simple Caller ID devices that don't connect to the Mac start at \$20, and many modems have Caller ID capability built in. —Owen W. Linzmayer



**THIS IS WHAT THE little bugger looks like.**



**GOOD NEWS:** Phone-dependent users will appreciate clean interface, automatic call logging, and robust blocking and paging features.

**BAD NEWS:** Usefulness limited by lack of display. Large percentage of calls without Caller ID information. Feature-poor Phonebook.





# reviews

## DeskWriter 680C/682C

**DEVELOPER:** Hewlett-Packard

**CONTACT:** 800-243-9812; <http://www.hp.com>

**PRICE:** \$309 (680C); \$329 (682C)

**REQUIREMENTS:** System 68020-based Mac, 8MB of RAM, System 7.0 or later

**H**ewlett-Packard has a well-deserved reputation for making high-quality, low-cost laser and ink-jet printers. So how does their rep stand up after their latest offering for the home—the HP DeskWriter 680C/682C? Very well, indeed.

First off, the only difference between the 680C and 682C is that the 682C comes with Disney software for making cards, banners, samples of HP's special greeting card and banner paper, and a "family fun kit," that includes several craft ideas and supplies. The 682C is the printer you've probably seen heavily advertised on TV and in print—HP is milking their Disney license for all it's worth.

The 680C is an ink-jet printer—with all the advantages and disadvantages implied. Print quality can vary greatly depending upon the paper used. The more porous the paper, the fuzzier the text and images; so although it can print black and white at 600 dpi in its best mode, the text quality is right around that of a 300 dpi laser printer. Because of ink seepage into the paper, color images also tend to print much darker than they look on screen. HP (and other vendors) sell special papers that take ink-jet ink much better than standard bond, but for most uses, regular (cheap) bond works just fine.

Ink-jets as a breed are slow, and the 680C is no exception. It takes the 680C about a minute to print a page of text in Best mode, and about five minutes to print a full-page color image. So what's the advantage? In a word: cost. The 680C is about a tenth the price of a



**THE DESKWRITER 680C DELIVERS VIVID COLOR** for around \$300—what more do you want in a printer? The 682C brings banners and Disney products to your home.

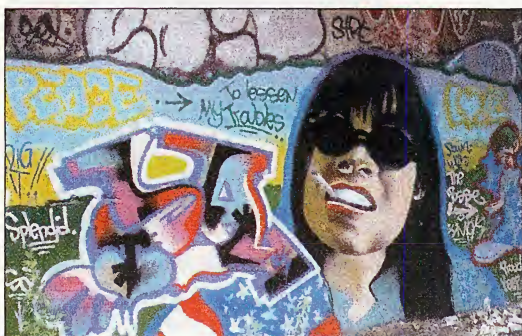
color laser printer, and although the output quality is not quite as high, it is more than acceptable for most home uses.

The printer comes with its own driver and custom software, ColorSmart, and has a variety of output resolutions: 300 dpi in Draft mode; 300 x 600 dpi in Normal mode for text (300 dpi for Normal color printing); and 600 dpi for black-and-white; or 300 x 600 for color in Best mode. (You need the special glossy paper to achieve Best mode when printing color.)

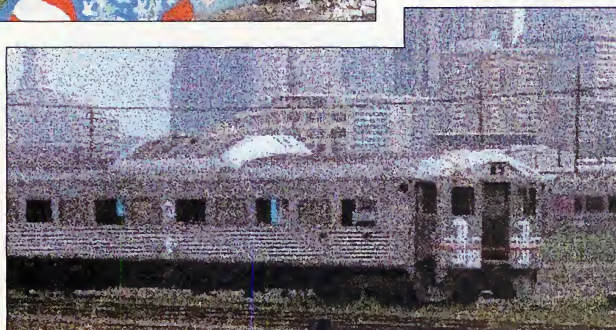
Setup and installation are a breeze—with two caveats. First, the manual could be more friendly and better organized. Second, and more importantly, there is no cable included to connect your Mac to the printer! This is a glaring error. HP has probably saved about \$1 per unit, at the cost of many unhappy customers. Nothing creates a worse out-of-the-box experience than realizing you need to return to the store to buy something else. On the plus side, technical support was free (via a toll call), friendly, and accurate. Additionally, you can hook the printer to your Mac via a serial port or, if you want to share it over a network, via an AppleTalk port.

The printer uses two ink cartridges: one for black, and one for cyan, magenta, and yellow. The output quality for both color and black-and-white is very good on regular bond, and excellent on ink-jet bond and glossy papers. The number of paper-handling options is also impressive, as is its ability to print on index cards, labels, transparencies, and more than one envelope at a time. The printer uses fan-fold (or banner) paper, a godsend to Print Shop junkies. Hint: if you want your color ink to last more than a day, stay away from creating full color banners, and print in Draft mode.

Because of its speed, we wouldn't recommend the 680C as the sole printer for a home office (it's too slow), but for general home users (especially those with children), those who like to do creative computing themselves, or those who want a second printer for color jobs like family photos, the 680C is a great buy. —Chris Charla



**THE DESKWRITER 680C PRINTS COLORS SO VIVIDLY** that even '60s-inspired graffiti art looks great. (Art is subjective, right?) This image was printed in Best mode (300 dpi) on HP's mid-range coated paper.



**NOT TOO SHABBY.** THE LINES ARE SHARP, the contrast is good, and the earth tones are realistic. This image took about five minutes to print in Best mode (300 dpi) on HP's mid-range, coated paper.



**GOOD NEWS:** It's cheap. Print quality is high (if the right paper is used). Offers multiple resolutions.

**BAD NEWS:** Doesn't come with a cable to connect the printer to your Mac. Weak manual.



# reviews



reviews

## SilverScanner Pro

**DEVELOPER:** La Cie

**CONTACT:** 800-999-1179; <http://www.lacie.com>

**PRICE:** \$599 (srp)

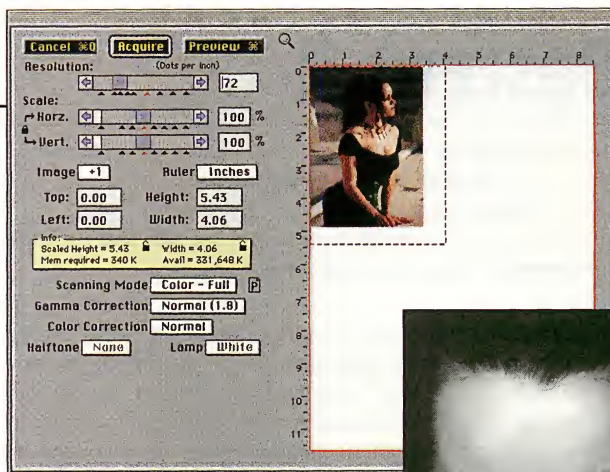
**REQUIREMENTS:** SCSI-Capable Mac, System 6 or later, 40MB of hard drive space, 5MB of RAM

Just when you thought it was safe to dive back into pixels, another flatbed scanner surfaces. La Cie's SilverScanner Pro, however, is a beautiful piece of work. This 24-bit, single-pass scanner looks great and makes sharp, colorful scans right out of the box. It comes with Caere's OmniPage Lite to perform OCR, a Photoshop plug-in, and ScanPrep, a utility that automates Photoshop's image processing tools. And, if you don't own Photoshop, you can purchase Photoshop LE (a lite version) for an extra \$70. In short, you get all the tools you need to go to work almost immediately. Unfortunately, this elegance in design and functionality did not carry over to the plug-in interface, and the documentation is a little spotty.

The SilverScanner Pro delivers accurate colors (including flesh tones) from the get go. It also does excellent work with sharpness and tone, especially in grayscale mode. Tweaking the scanner settings made these scans even better, resulting in great tonal reproduction and sharp, clear images. There were a few specific conditions that resulted in some bad scans. Scanning glossy-finish photos produced images with an overall gray haze, and the scanner could not press those photos flat against the scanner glass, which caused occasional streaking. However, matte pictures rested flat on the bed and scanned beautifully.

The SilverScanner Pro is quick. Scanning a black-and-white 4 x 6 inch print (the scanner has a scan area of 8.5 x 11.7 inches) at 256 shades of gray and 72 dpi took only 10 seconds. Increasing the resolution to 300 dpi also increased the scanning time to 30 seconds. The same image in 24-bit color scanned in at 72 dpi jumped the time from 10 to 40 seconds and at 300 dpi, took 90 seconds. With software interpolation, the SilverScanner can increase its resolution from 300 x 600 to 1200 x 2400. While interesting, this is of little practical use. Scanning a 3 x 5 inch image at 2400 dpi took 28 minutes and the final image was muddy.

Installation went relatively smoothly with some help from the SilverScanner manual. Although the first 30 pages is a quick read and contains important setup and operation information (Section 3, "A Scanning Primer" is a must-read), there was no mention in the La Cie manual of the ScanPrep utility. The ScanPrep documentation is hidden on the installation disk.



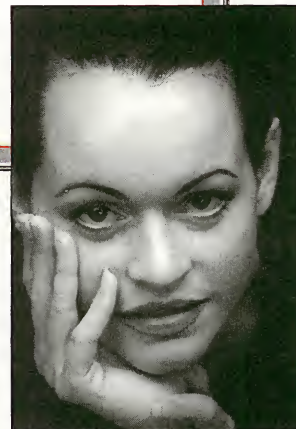
**THE PLUG-IN interface for the SilverScanner Pro could use a lot of help. Preferably a few well-muscled, strong-arm tactics.**

There were a couple of other bumps during installation, but La Cie's tech support was great. Photoshop refused to recognize La Cie's SilverScanner plug-in

until the Photoshop preferences file was thrown away (a problem if you've spent a lot of time tweaking your Photoshop preferences). La Cie's technical support provided this solution after only five seconds on hold—impressive.

Once the SilverScanner plug-in fired up, though, I wished Apple had an Office of Interface Compliance staffed with big Sicilian guys named Guido and Knuckles. They would have full-time jobs at La Cie. The SilverScanner's plug-in window is pretty darn ugly thanks to an atrocious color scheme and awkward placement of options. Fortunately, most of the features and information that you expect are here—preview, scaling, image size, and resolution—with the glaring exception of the RAM required to complete a scan. One particularly nice touch to the interface is the small arrows under the "Resolution" slider. Each of these arrows is a preset dpi setting which makes selecting frequently used resolutions simple.

Overall? The La Cie SilverScanner Pro is a good buy. It's quick, it's inexpensive, and it delivers quality scans—what else do you want? A major interface rework and a lid that keeps glossy photos flat against the glass are two suggestions, but as it stands, the SilverScanner Pro does the job. —*Christian Jacobsen*



**GRAY-SCALE IMAGES** come clear. Notice the facial tones and the smooth lines along the jaw.



**THE SILVERSCANNER PRO** did a great job with the sewer cover detail; however, the fine variations in the flower color didn't show up nearly as well.



**GOOD NEWS:** Scanner produces high-quality images.

**BAD NEWS:** Software interface uninspiring. Documentation sparse in places.





# reviews

## Descent II

**PUBLISHER:** MacPlay

**CONTACT:** 1-800-4MACPLAY; <http://www.macplay.com>

**PRICE:** \$59.95 (srp); \$47.95 (street)

**REQUIREMENTS:** Power Macintosh with 10MB of free RAM (16MB of free RAM recommended), double-speed CD-ROM drive

**H**old on to your stomach, you're in for another roller coaster ride in Descent II. After surviving the challenge of the first Descent, you cruise victoriously in Vertigo-1 through an asteroid belt and dock with a large PTMC space station. Ready to reap your just rewards, you're blindsided when the powers that be exploit a tiny loophole in your contract and send you to the Zeta Aquilae system for an additional 72 hours of underground mayhem.

Fortunately, this time you're not alone. Joining you on your journey is a friendly, programmable Guide-Bot that can seek out keycards, hostages, powerups, robots, the reactor, and the level exit. By default, the Guide-Bot seeks out your next goal on the way toward completing the level and, if you fall behind, it will turn around and come back for you. This is a great help to newcomers, who can easily become disoriented while twisting and turning in the claustrophobic 3D tunnels. You can also enable up to three views at once with cameras behind you, in the Guide-Bot, in your missiles, or—in network games—in markers dropped behind you that help you keep an eye out for foes.

Sequels to 3D shoot-'em-up games usually deliver huge leaps in technological innovation. Descent II is no different, adding an environment full of animated effects, like water and lava in which to cruise and destroy marauding bands of robot spacecraft. Gameplay is further enhanced by ten minutes of hard rocking CD audio by Skinny Puppy's "Ogre" and "Type O Negative," which add a pulsing beat as you cruise through 30 new hostile alien mines to save trapped humans, blow up the shaft, and escape. (If you don't like the bundled music, you can, thankfully, substitute your favorite audio CD. "Sticky Fingers" by the Rolling Stones makes for an interesting soundtrack.)

What? All of this isn't enough for you? Well, check out Descent II's wealth of gameplay options. There are 22 varieties of weapons (10 of which are new), and 11 different powerups that provide anything from shield boosters to a new afterburner that can temporarily double your top speed. A headlight powerup makes it easier to navigate the darker corners of the mines, but it also draws enemy fire. It's a good thing you can turn it off—if you can recall which key to push. Learning all of the available keypresses and



**THE UNDERSEA MINESHAFT** is just one of several new environments in Descent II, which makes good use of animated textures to render a realistic new alien world.



**BLOWING AWAY ALIEN ATTACK ROBOTS** isn't the name of the game, but it might as well be!



**A FRIENDLY GUIDE-BOT**, new in this version, escorts you through the twisting 3D mineshaft in search of keycards.

remembering them under fire is, perhaps, your biggest challenge. The game is topped off with 30 new robot foes, the most notable of which is a Thief-Bot that can steal your weapons, ammo, powerups, and even cheat code-enabled attributes, such as invulnerability!

Network play is where Descent II shines. Up to eight players can join and leave games already in progress across an Ethernet network that is running the IPX protocol. AppleTalk games allow up to three players in a deathmatch or two players for cooperative play. Net games can be open, closed, or restricted, allowing invitation only access.

With a game this flexible, what could possibly be bad? For one thing, optimal gameplay is available only with a Power Mac with 24MB of RAM. Players with less RAM may have to settle for less detail, fewer sound effects, and other compromises. Also, to prevent freezes and lockups that can lead to corrupted pilot files, you must turn off all unnecessary system extensions. Despite Descent II's ability to directly control many popular Mac joysticks (such as those from ThrustMaster and Gravis), you must manually tweak the default settings to enable simple things such as button control of forward and reverse movement.

Finally, the interface falls short of being Mac-like, forcing you to navigate DOS-style menus to customize and launch gameplay.

These are minor quibbles with an otherwise fantastic entry into the realm of 3D action games. The arcade-like quality of Descent II is unmatched on the Mac. Descent II is the ultimate cross between a flight sim and a Doom-type shoot-'em-up game. —*Dave Kramer*



**Good news:** Redbook audio and true 3D effects make for engaging gameplay. Unmatched arcade-like quality.

**Bad news:** Stiff RAM requirements. Pilot file prone to corruption. Dramamine may be necessary.



# reviews



reviews

## Wing Commander IV

**DEVELOPER:** Origin

**CONTACT:** <http://www.origin.ea.com/origin>

**PRICE:** \$48.95 (street)

**REQUIREMENTS:** Power Mac, System 7.1 or later, 2x CD-ROM drive, 8MB of RAM, 46MB of free hard drive space

In Wing Commander IV you—as your on-screen persona of Christopher Blair—spend a good deal of time out of the cockpit. After single-handedly winning the last war for the Confederation, you (Blair) are called into duty again to deal with a new and ambiguous threat. Some of your old comrades are back, as is your nemesis, Admiral Tolwyn (Malcom McDowell). However, “all is not as it seems,” and your clear-headedness and loyalties are tested to the limit. Full-motion scenes are more than gimmicks to pad out the game; at crucial points you have to decide what to say, and depending upon your choice of words, the story takes on a new tack. The production values are darn good, and the actors come off much better against the real sets than against Wing Commander III’s blue-screened ones. For over \$10 million in production costs, they should.

There are gaps in the plot, however, and things do eventually boil down to getting back into the cockpit and shootin’ down bogies.



**IN A DOGFIGHT,** watch where you’re going as well as where you’ve been.

Gameplay is an evolution of Wing Commander III’s, so followers of Blair’s career should be comfortable

right away. Refinements have been made to the flight engine: there’s a better heads-up display; the ships’ graphic detail is smoother; and the land missions no longer take place on uniformly white surfaces. This is not real spaceflight, however—not even close. Ships bank, slow when not under power, and scream by at close range. Oh well, it’s consistent, and the real thing would likely be slow and frustrating. The Dolby Surround Sound is incredible, and I found myself leaning as I turned my ship, and flinching at a missile hit.

With six CDs and a several game tracks, the game provides decent replayability, despite missions becoming uncomfortably similar, and a little wearisome, after say, six hours of play. Still, it’s great to blast a hole in the ether and zoom through the stars. —D. D. Turner



**GOOD NEWS:** Like Wing Commander III, only better. Fantastic sound. Terrific spaceflight fight.

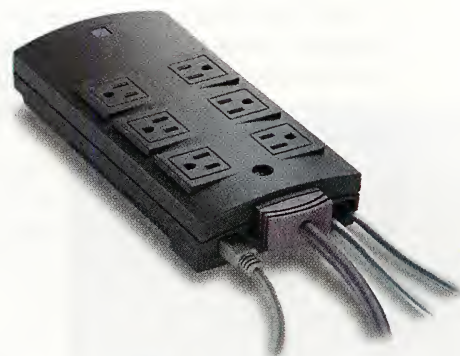
**BAD NEWS:** Like Wing Commander III. Needs a fast, memory-filled Mac. Space opera a bit overblown.

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# reviews

## MechWarrior 2

**PUBLISHER:** Activision

**CONTACT:** 310-473-9200; <http://www.activision.com>

**PRICE:** \$59.95 (srp); \$47.95 (street)

**REQUIREMENTS:** System 7.5.1 or later, PowerPC processor, 11MB of RAM, CD-ROM drive, 45MB of free space on the hard drive

Short of actually building a BattleMech in your garage with plans of unleashing its power on the suburban neighborhood of your choice, MechWarrior 2 comes as close as you're going to get to the real thing. Based on the FASA BattleTech Universe, MechWarrior 2 is a 3D battle sim with a rich story line and a history that backs up the explosive action. With considerable time put into the development of realistic controls and physics (more than two years since the original MechWarrior), the game invites you into its world without any distractions of disbelief. Then, once you're truly immersed into the game, the mission objectives take on a whole new sense of weight and urgency, adding to the overall enjoyment of the experience.

Offering more than 50 missions, each ranging in size and scope, MechWarrior 2 begins with your pledging allegiance to one of two rival Clans. Both the Jade Falcon and the Wolf Clans have their own agendas and your game heavily depends upon which side you choose to belong. Once you've decided upon your Clan, you have the option of learning how to operate the BattleMechs in an extensive Cadet Training program, or jumping right in to the first mission.

Missions consist of a few objectives which must be met in order to advance the ultimate cause of your Clan. Each mission takes you to a different location giving the game great variety in look and character. The early missions are reasonably considerate of the fact that



**FROM WITHIN THE COCKPIT** you can control every aspect of your BattleMech including camera perspectives, weapon choices, and full 360-degree motion.

high praise. With 15 different BattleMechs, all easily customized, the game offers a generous variety of gameplay elements. Thanks to the true 3D graphics, there are also several camera perspectives. Play from within the cockpit of your BattleMech, trailing behind it, or even from an overhead satellite view. There are still more options within each of these views. For example, from within the cockpit, you can look left and right, up and down, and even zoom in and out of the Z axis. Aah, total freedom.



**FROM INTRICATE CITYSCAPES** to vast desert wastelands, MechWarrior 2 offers a significant variety of arenas in which to play.

**LEARNING TO TAKE FULL ADVANTAGE** of your Mech's weaponry is all a part of becoming successful in later missions.



Graphically, MechWarrior 2 does more than necessary to impress. From the awesome intro sequences which set the tone of the entire game to the detailed texture-mapped environments, the real-time 3D landscapes are thoroughly convincing and highly stylized. Also adding to the game's immersive nature are a host of thunderous sound effects and sporadic, but effective, soundtrack snippets. The result is an environment which makes sense and yet seems totally foreign.

One minor annoyance is that Activision's installer automatically puts Sound Manager 3.1 in your System Folder and forces you to restart. If you have System 7.5.3 (System 7.5 Update 2.0) you've already got Sound Manager 3.2 built in to the System and don't need another outdated version floating around. You'd think that in this day and age an installer would be smart enough to figure that out.

In the end, MechWarrior 2 is a stellar game because it balances the immediate fun of blasting 3D Mechs with a more complex simulation element. Throughout the game, you can play on any of several levels—from hanging on every word of the story line as it continues to unravel with each mission to going after objectives simply as a means to advance to the next level. With fun and depth to spare, MechWarrior 2 is more than enough game for just about anyone. It was well worth the wait. —Patrick Baggatta



**Good news:** Plenty of depth in gameplay. Story is made even better with awesome graphics and sound.

**Bad news:** It takes awhile to master complex controls. No network play. Installer adds SoundManager 3.1 willy-nilly.



# reviews



reviews

## Afterlife

**DEVELOPER:** Lucas Arts

**CONTACT:** 1-800-98-LUCAS; <http://www.lucasarts.com>

**PRICE:** Price: \$49.95 (srp)

**REQUIREMENTS:** 2X CD-ROM, System 7.1 or later, 33MHz 68040 or better, 8MB of RAM, 256 color display

Heaven and hell are expecting an influx of souls and—narcissism aside—you're god. Afterlife puts you in charge of the urban development of heaven and hell. You lay down roads to control the traffic of souls, zone for seven virtues and seven vices, and add special buildings to the maps of your after-realms. The Disco Inferno and other not-so-natural disasters may arrive to lay waste to your carefully laid plans while souls wait in convenient Limbo Bars.

Afterlife could have been released as a graphics add-on for Maxis' SimCity 2000. Buildings grow just as they did in SimCity, and the charts and graphs that help you foster population growth are also virtually identical to those in SimCity. As a result, Afterlife's learning curve and corresponding challenge is quite tame.

But who cares? Afterlife is a welcome addition to the sim family. Graphics are extraordinary. Each building is painstakingly detailed,

the advisors wonderfully animated, and disasters hilariously drawn. The rich detail makes playing in this sandbox a delight—each building has a story which would make even Ebenezer think well of ghosts.

Unfortunately, Afterlife's interface is idiosyncratic. Navigating the map via the scroll bars is almost impossible: try clicking on the place you want to go in the map window. Command-W won't work to close windows. The game's graphics get in the way. It's easy to miss by one or two squares when placing objects. You may find it easier to play with the graphics off.

Finally, Afterlife's gameplay has one seriously annoying flaw. Each building has a "balance" which must constantly be tweaked to have a properly "efficient" heaven or hell. This massively intrusive "feature" forces you to periodically reset each building. Use the auto-balancing tool and say goodbye to large chunks of your budget.

Afterlife is a fun diversion for sim lovers. It brings out your best anal-retentive qualities and it's humorous. But if you've never played SimCity pass up Afterlife and grab the original for its superior gameplay. —Tomoko Shimizu



**ET SHE AIN'T.** Follow souls as they try various rewards and punishments.



**GOOD NEWS:** A rich sim game with tons of humor and richly detailed artwork.

**BAD NEWS:** Been there, done that.

## EMPTY YOUR SHOES ...

### A-10 Attack!...



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**Best Flight  
Simulator  
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MacWorld Magazine  
January '96



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better...

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A-10 Cuba! includes exciting action-packed missions, multiple network arenas, and many other new features. Enjoy hours of explosive fun with the included mission player. For enhanced mission planning capabilities, A-10 Cuba! can be used with the original A-10 Attack! mission editor. Defend the world's innocent – while there's still time!

#### Features Include...

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actual screenshots from A-10 Cuba!



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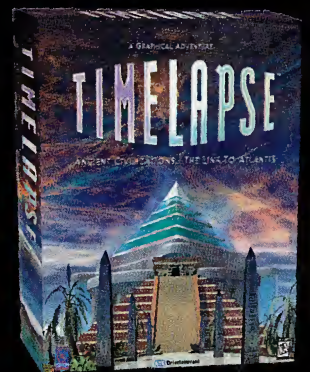
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# reviews

## Kai's Power Goo

**DEVELOPER:** MetaTools

**CONTACT:** 805-566-6200; <http://www.metatools.com>

**PRICE:** \$49 (street)

**REQUIREMENTS:** System 7.5 or later, 68040 or better, 8MB of RAM, 20MB of free hard drive space, 16- or 24-bit video

There was a kid's revolution at the computer. My six-year-old daughter, Hannah, got Kai's Power Goo right away. She pushed me out of my chair, sat herself down, and started making funny faces on the screen. For hours. With giggling.

Even if you're a sober-sided adult, chances are MetaTools' Goo will have you giggling, too. The first graphics application specifically designed to create photorealistic caricatures, Goo's unique set of tools let you treat any electronic image as if it were made of Silly Putty. With just strokes of the mouse—no modal dialogs or floating palettes—you can bend, squash, stretch, squish, smear, grow, shrink, twist, and twirl smoothly and with immediate feedback, any electronic image.

The Goo CD-ROM even comes with a generous supply of pictures to get you started.

The nucleus of Goo is the Goo Room, where you get to work your magic with a set of nifty tools. Distortion effects are arranged in two colorful necklaces that look like strings of M&Ms. The first string contains brush-based effects including: Move, Smear, Mirror/Toggle, Smudge, Nudge, Grow/Shrink, and Smooth. The Mirror tool is particularly useful for working with faces and other bilaterally symmetrical subjects because it lets you copy effects from one side of an object to the other. For example, using the mirror tool, you can apply Goo effects to both eyes on a face at the same time. The second necklace string applies global effects, such as Twirl and Rotate, that affect the whole picture at once, not just the area under the cursor.

Goo also lets you create animation in both QuickTime and in its own native format, called Goovies. Goovies are entirely keyframe-based, meaning the program interpolates frames between key images. To make a keyframe, select a keyframe position in the Goovie strip at the bottom of the screen and click on the down arrow. At least two keyframes are required to make a Goovie, but the number of keyframes is limited only by RAM. The downside: Goovies aren't compatible with any other program, and can't be played outside of Goo. Fix to the downside: export the Goovie to QuickTime format.



**DESPITE ITS ODD, unMac-like interface, you'll be warping, distorting, and otherwise goo-ing friends and enemies alike in a short time.**

Goovies aren't Goo's only fun. Want to put rabbit ears on your boss? Just check into the Fusion Room. Here you combine parts of two images to make a third, using adjustable painting, smoothing, moving, and smearing tools. As with any compositing or morphing effort, you get better results if the two base images are similar in size, shape, orientation, and background. (Because Goo has no standard image-editing tools, you may have to make a trip to Photoshop to prepare your images for Goo-ing.) Fusion Goovies can't actually be made in the Fusion Room; you must move interim Fusion images to the Goo Room and drag them onto the Goovie keyframe strip.

Sophisticated technology underlies Goo's bizarre transformations. Resolution-independent Goo operations occur in a layer above—without changing—the original image. The quality of image output is limited only by available RAM. You can also reverse the Goo process step-by-step, at any time. The Goovie technology is particularly impressive. Each Goovie keyframe is only around 50K, so even a fairly long Goovie takes up less room, plays more smoothly, and has better image quality than the same movie converted to QuickTime.

MetaTools has always marched to the beat of a different drummer when it comes to interface design, so it's no surprise that Goo uses few Mac metaphors. To do common operations like loading and saving files, you must swap in and out of various Goo rooms; which is a slower and more cumbersome process than simply popping up a dialog box, pressing a key combination, or using drag and drop. Most common Mac keyboard commands don't work within Goo (except Command-Q for Quit, and Command-Z for undo). The graphic-screen interface is barely usable on older 68K-based Macs because it doesn't use Apple-optimized System calls.

The upside of Goo's toy-like interface is that even nonreading six-year-olds can get the hang of it with minimal effort—don't imagine that Goo is only a kid's program. It's really a program for the kid in all of us. —Steven Anzovin



**GOO-FUSION:** Combine images in the Fusion room. Lassie never looked this happy on TV.



**GOO-LIBRARY:** The Goo CD contains a library of faces and other images for you to play with. Go ahead—Goo the president.



**GOO-MAP ROOM:** You'll see the Map Room first off—and too often after that. Goo needs more keyboard shortcuts for power Goo-users.



**GOOD NEWS:** The most silly fun of any graphics program you've seen. High-quality results geared specifically for facial manipulations and caricatures. Easy to learn. Colorful screens appeal to children.

**BAD NEWS:** Nonstandard interface will bug Mac purists. Limited animation tools. Poor performance on 68K machines.





# reviews

## 3D Web Workshop 1.0

**Developer:** Specular International

**Contact:** 800-433-SPEC; <http://www.specular.com>

**Price:** \$399 (srp)

**System Requirements:** Macintosh with FPU or Power Mac, System 7.0 or later, 8MB RAM, CD-ROM drive

**W**e've all heard that the Web is the Multi-media Medium Of Tomorrow. But most home-brewed Web pages are grayer and duller than a lump of lead. Enter Specular's 3D Web Workshop 1.0, a graphics-oriented software bundle aimed directly at the Web-lorn. With this smart package and a little ingenuity, even code-challenged non-programmers can come up with a compelling Web site.

Web Workshop centers around Adobe's PageMill, a graphic interface used to create Web pages without having to deal with HTML (HyperText Markup Language). PageMill works like a page-layout program, although it is not nearly as powerful as PageMaker or QuarkXPress. There are two modes with which to work with Web pages: Edit Mode and Browse Mode. In Edit Mode, you can arrange graphics and text and create links to other pages without typing URLs (although you can, if you prefer to work that way). In Browse Mode, your page acts as if it were on the Web, allowing you to test links to other pages.

PageMill basically sticks to the HTML 2.0 standard. Unfortunately, it inherits some limitations from HTML itself, which do not allow exact placement of images or text, and rely on the browser for page size and formatting. Also, PageMill doesn't show you HTML at all, which will alienate more experienced Web users. (More direct access to HTML tags and URLs are promised for PageMill 2.0, which Specular says it will offer as an upgrade.)

Logomotion Web Edition puts the "3D" in 3D Web Workshop. While you won't be making VRML worlds (like you could with Specular's Infini-D), Logomotion will make snazzy 3D banners. You work mainly with prefab models (or text) and animate them with simple



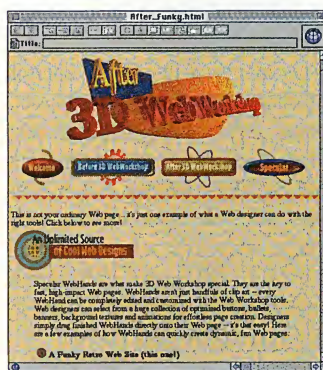
**SPECULAR LOGOMOTION WEB EDITION'S StageHands offer automatic animated effects.**

### A WEB PAGE BEFORE a Web Workshop makeover...



optimized for fast downloading. Some WebHands can be animated with GifBuilder, a freeware animated GIF creator. Unfortunately, older Web browsers can't play animated GIFs and neither can the bundled version of PageMill. You'll have to view your Web page in a Navigator 2.x-compatible browser to see it in its animated glory.

### ... AND THE PAGE AFTER using Adobe PageMill's WYSIWYG editor.



animation assistants called StageHands. Users of non-Web versions of Logomotion will be happy with the new interface. Self explanatory icons and animated previews have taken the place of most menus.

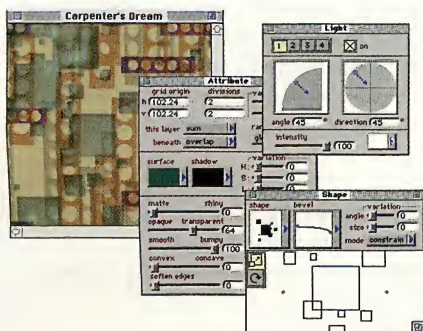
Also included in the package are WebHands-1500 Web-oriented, clip art files that will meet most Web design needs. The buttons, arrows, bullets, and flags are available in a range of styles, are fully customizable, and are

Specular's TextureScope Web Edition rounds out the bundle, providing a texture-generation program for creating unique backgrounds, buttons, and textures for use in Logomotion. TextureScope works by using various parameters to tile PostScript shapes. By layering these tiled shapes you can make very complex patterns. The program allows you to bevel and render shapes with shadows and highlights. With

TextureScope's built-in sequencer, you can animate complex shape-morphs and texture changes. But please take pity on your reader's eyes before going overboard with the background confetti.

3D Web Workshop is a useful, well-thought out package. Specular even throws in Netscape Navigator 2.0 and an introductory subscription to a service provider, EarthLink Network—but the very notion of thousands of Web pages full of animation and flashy graphics is enough to bring the Internet backbone to its knees. Graphics-heavy Web pages scream for bandwidth that just isn't available yet. So while Web Workshop may cure the proliferation of flat, gray Web Pages, it can also tempt you into graphics overkill. —Raf Anzovin

### BEVEL AND RENDER TEXTURES WITH SHADOWS AND HIGHLIGHTS with Specular TextureScope Web Edition.



**GOOD NEWS:** An excellent bundle of Web-authoring tools.

It's all you need to create eye-catching pages.

**BAD NEWS:** Overuse of the widgets will cause people to run away screaming from your home page.





# reviews

## WebBurst

**PUBLISHER:** PowerProduction

**CONTACT:** 310-937-4411; <http://www.powerproduction.com>

**PRICE:** \$199 (srp)

**REQUIREMENTS:** System 7.0 or later, 4MB of free RAM, 68030 or better

**A**re you ready to make your Web site go from plain Jane to vain Jane? WebBurst is a spicy new application that allows non-programmers to produce Java applets—small, animated applications that ‘net surfers can play from their Web browser. It’s specifically designed for creative, visually-savvy Web page designers who want to produce their own Java-powered sites.

Until now, in order to get Java on a Web page, you’d have to shell out serious bucks to hire a Java programmer, or endure a steep multi-month learning curve. WebBurst enables those of us who are devoid of any and all programming skills to create Java applets using simple, standard, drag and drop techniques. You no longer need to know Java, C++, or Lingo to quickly build interactive sound and animations into your Web pages.

In WebBurst, your canvas is the Applet Window. Creating applets is a three-step process. First, you must have content. Either import items you have already created (simply drag and drop any PICT image, AIFF or SND sound file, or any text file into the Applet Window), or design images and text from scratch using WebBurst’s simple tool bar. An applet can contain an unlimited number of elements.

Next, you’ll assign actions to the art using the Action Control Palette. You can create links to other documents, animate objects, create if/then interactions, and make objects move. Repositioning individual items is painless. Tweak your applet to your heart’s content and see the result simply by clicking the run button. You shouldn’t hold back when you feel the urge to experiment with animation effects, because every object resides in its own layer.

Finally, save your applet and choose “Export to Java Powered Applet.” WebBurst will create a single folder containing all Java code and supporting files. It will even write the HTML code for you.

You can view the applets either locally or live, in a Java-enabled browser. Betas of the 3.0 versions of both Internet Explorer and Netscape Navigator are Java-enabled. Simply drag the HTML file that WebBurst created onto the browser window in order to view it.

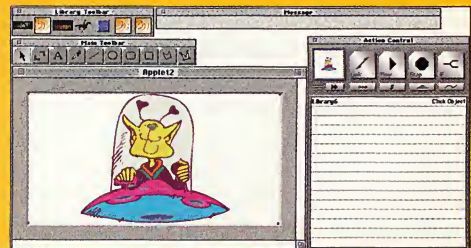
Other key features include the ability to embed scrolling messages on a Web page, integrated 32-bit color (8-bit color editing), color drawing tools (line, rectangle, round rectangle, oval, polygon, and freehand), alpha channel support, and graphic object grouping and ungrouping. Also included are many tools for interface construction, as well as a handful of pre-made buttons and animations. And, WebBurst lets you access all of the code it creates, so if you do want to make adjustments via programming, you can.

While grokking the interface is as simple as solving a second grade word problem, once you feel the urge to delve into the more advanced realms you might run into some minor problems with the documentation. It lacks detailed step-by-step instructions for the more advanced features. This is more a minor speed bump in your WebBurst experience, than a brick wall. With a little time and

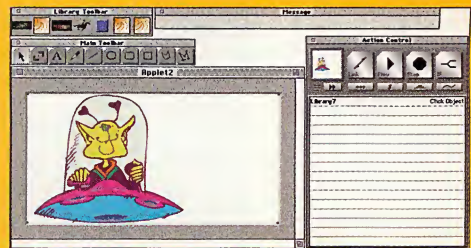
### THREE STEPS TO A JAVA APPLET



**Step 1:** We made a Java applet out of this alien from T/Maker’s ClickArt collection. First we dragged a folder of three PICT files onto the Applet Window. This created a new button on the Library Toolbar.



**Step 2:** Click on the play button in the Action Control window. You’ll get a pop-up menu. Choose the animate option and you’re in business. WebBurst will animate the object for you.



**Step 3:** With WebBurst, it took just five short minutes—from importing images to exporting previewable HTML—to create a fully functional Java applet.

patience you should be able to swing password protected applets in no time.

If you are ready to have your Web pages go from static to dramatic, WebBurst is an essential weapon to add to your arsenal. For \$199, roughly the price of a nearly purebred Chihuahua, a cross-country Greyhound ticket, or a single tire for your 4x4, you can own WebBurst. Clear out a 2MB plot of hard drive space so that WebBurst can find a happy home on your Macintosh. —Heidi Swanson



**GOOD NEWS:** Great interface. Easy to use. Lets you create Java applets without learning to program.

**BAD NEWS:** Skimpy documentation. Lacked detailed instructions on how to use advanced features.



# TITANIC

ADVENTURE OUT OF TIME



This November, race to alter history on a ship out of time.

Free Demo Disk: [www.im.gte.com/titanic](http://www.im.gte.com/titanic)



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**GTE Entertainment**





# reviews

## SmartSound for Multimedia

**DEVELOPER:** Sonic Desktop Software

**CONTACT:** 800-454-1900; <http://www.sonicdesktop.com>

**PRICE:** \$179.95 (srp)

**REQUIREMENTS:** CD-ROM drive, System 7.0 or later, 68020 or better

When people ask if you can play an instrument, do you answer, "Sure, I play the stereo"? Kidding aside, if you'd like to add soundtracks to your home movies without learning to play guitar or perform audio editing—and your musical talent resides in your ability to push the stereo buttons—check out SmartSound for Multimedia. This program offers professionally composed, performed, and recorded music that can be sliced and diced and then rearranged, generating an endless variety of new compositions. Moreover, despite the program's hobbyist orientation, the results sound like you've spent years practicing.

The Maestro feature gives you a quick start on SmartSound, directing you through a six-step composition process. First you're asked how the soundtrack will be used—as an opening or as background music, for example. Specify a length (within a tenth of a second), and then select one of several music styles including rock, big band, country, and others.

Your first three screen selections determine your options in the fourth screen where you choose a source recording (sound file) upon which to base your soundtrack. A button lets you preview each piece to be sure you've selected an appropriate "energy level." The program then rearranges the original pieces into several new versions. After auditioning the options and making your selection, simply name the piece

and save it as an 8- or 16-bit, 11 or 22kHz, AIFF, QuickTime, or Wave file.

Once you're familiar with SmartSound you can quickly create perfectly acceptable soundtracks that always sound thoughtfully composed with a natural flow and a definite beginning, middle, and end. Easily change parameters by making a new selection in the appropriate Maestro screen. The software then obligingly recomposes the piece.

The Maestro has a fast and easy front-end, but its connect-the-dots approach may be too restrictive for some composers. For more creative control, SmartSound offers a unique audio editing section.

**BASED UPON SELECTIONS FROM previous screens SmartSound's Maestro generates several new compositions from an original sound file.**

SmartSound chops its original recordings into little chunks called Smart Blocks. A Block can include anything from a single orchestra hit to a one- or two-measure "phrase." Blocks can be used over and over and combined in any order (play a Block by clicking on it).

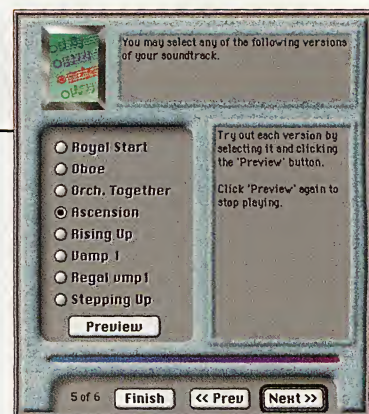
Create a composition by simply dragging a Block from the Blocks window into the Sequencer where it snaps into place along a timeline.

Small markers indicate choice opening and ending Blocks, but you needn't follow the suggestions.

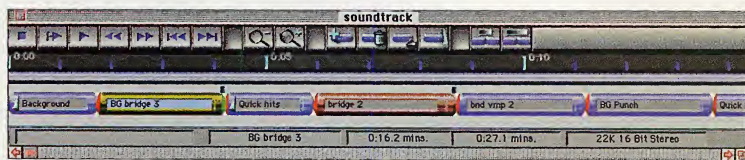
Each time you drag a Block into the Sequencer, SmartSound flags several Blocks that logically fit the musical sequence, and it will mark awkward connections in red indicating possible trouble. A Smooth tool effectively blends (cross-fades) abrupt transitions.

SmartSound's drag-and-drop environment encourages experimentation. Insert new Blocks, delete those that don't work, and rearrange Blocks into new combinations. Start a piece, designate an endpoint and SmartSound finishes it. Personalize your soundtrack with effects: Fade In/Out, Echo, Stutter, Distortion, or Ping-Pong. Better yet—import your own Blocks from audio-CD tracks.

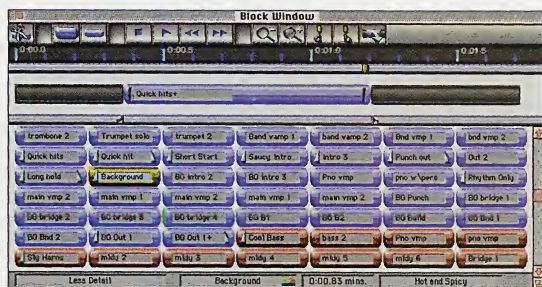
SmartSound's approach may seem impractical at first, but the program soon lives up to its promise. For beginners and pros alike it's a quick, easy, and fascinating way to produce custom music for multimedia. —David M. Rubin



**USE THE CONTROLLER TO OPEN a soundtrack and change its parameters. SmartSound will then re-compose the score.**



**TO CREATE A SOUNDTRACK FROM SCRATCH, simply drag Blocks from the Block window into the Sequencer window where they snap into place along a timeline.**



**THE BLOCK WINDOW** holds all Blocks that make up a particular sound file. Use the Block Clipper—below the toolbar—to cut a section out of a Block and save it as a new one.



**GOOD NEWS:** Easy-to-use interface. No technical knowledge needed. "Hinting and warning" feature encourages good results.

**BAD NEWS:** Full manual only provided on disc. 16-bit/44.1kHz versions of the sound files require the purchase of an additional CD.





## Gryphon Bricks

**PUBLISHER:** Gryphon Software

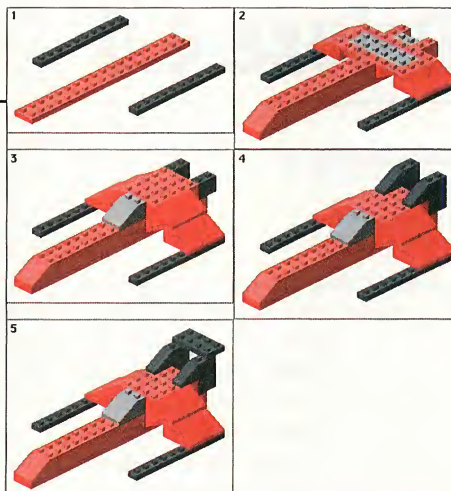
**CONTACT:** 619-536-8815; <http://www.gryphonsw.com>

**REQUIREMENTS:** Color Macintosh with 13" or larger monitor, 4MB of RAM, System 7.1 or later (System 7.5 recommended for scripting functions), CD-ROM drive

**Y**ou'd think we'd pass a toy like this on to the Brisbane Elementary School and let the kids have at it. Wrong. We kept it to ourselves, and tore open the box as soon as the developers left the building.



Bricks is exactly what it sounds like: a virtual set of building blocks. The interface is a piece of cake to learn—just pick the desired shape and color brick from the tool palette, and place it in the main window.



**NOT ONLY DOES BRICKS PRINT out a picture of your model, but you can print parts lists and instructions, too. This is invaluable if you opt to make a real model.**



You'll run out of imagination before Bricks runs out of bricks. There are 18 sets of bricks ranging from basic rectangles and plates, to doors and windows, to figures and vehicles—adding up to well over 300 different shapes that can be made any color in the X-color palette. The sets are stored in suitcases, so whenever Gryphon creates more sets, you can drop them right in.

There's a knack to placing bricks in the proper spot and it takes a while to develop the skill. Fortunately, a multiview option shows the model from the top, front, and side. Be sure you've grabbed the right brick, though; if you work too quickly, you may easily move the wrong brick.

In addition to being a brilliant toy, Bricks is also a wonderful Mac program. Every appropriate Mac technology, from AppleScript to Program Linking, is exploited, enhancing the program's functionality. You can print your model as a picture, a parts list, or as layer-by-layer instructions. With the network tool, you can share your models with others.

Gryphon Bricks takes advantage of AppleScript—here's your chance to learn it and still have a lot of fun. Simply record your actions in Gryphon Bricks with Apple's Script Editor, and create a sample script that can be dissected to see how it works. Also, all automation, from building figures to making QuickTime movies, is done with AppleScript. Yes, we said, QuickTime. Make stop-motion movies

**USING BRICKS' SCRIPTING FEATURES, you can make QuickTime movies. This movie of a couple sitting down to a romantic dinner took about three hours to construct. (See the movie on The Disc.)**

by moving pieces and recording their places with AppleScript. Woo-hoo! Look out Web, here we come!

The CD-ROM also includes a kids' version that uses a slimmed-down. Like Gryphon's Colorforms, KidBricks uses voices to guide children through dialogs. The interface is all up front, so kids don't have to scroll through lists of parts. There are funny—if potentially annoying—sounds with the various buttons.

This is not to say that Bricks is all rose and no thorn. In fact, sometimes the very simplicity of the interface gets in the way. Some shortcut keys are overloaded—the same key will do a different thing depending upon whether a brick is selected. Perhaps it would make more sense to have a modify key?

There are also a few drawing glitches. When you switch quickly between the Select and Place modes, the cursor leaves an outline of the current shape. You can force the program to redraw the window by dragging the command palette over the mis-drawn outline, then moving the palette back.

Barring the feel of working with real building blocks, Bricks is a stupendous toy. It could use some polish (but so could every 1.0 release) and we're not going to punish an innovative product for not being perfect.

—Kathy Tafel



**GOOD NEWS:** Your sister won't stomp on your masterpiece. You won't run out of pieces. You can print parts lists and instructions. Brilliant use of Mac technologies.

**BAD NEWS:** Occasional drawing glitches. Pokey on 68K Macs.



**FIND A DEMO of Gryphon Bricks The Disc.**

### Bricks Tricks

- Option-click on a color to paint an entire selection.
- If you want to rotate a piece prior to placing it, deselect it (Command-H), then use the left and right arrow keys. If a piece is already selected, the arrow keys will nudge it instead.
- Experiment with the scripts—hiding a portion of the model speeds things up as the program has less to draw.
- To use the networking option, one Mac will need to turn on program linking in the Sharing Setup control panel and allow the other user to connect via the Users and Groups control panel. Then, select some bricks and choose "Transmit selection" from the Import/Export Script Menu Item.

tips





# reviews

## StuffIt Deluxe 4.0

**DEVELOPER:** Aladdin Systems

**CONTACT:** 408-761-6200; <http://www.aladdinsys.com>

**PRICE:** \$129.95 (srp); \$29.95 upgrade

**SYSTEM REQUIREMENTS:** System 6.05 or later

**T**he Mac's premiere compression utility is now up to 30 percent faster than its forerunners and it boasts super-slick integration with the Finder. With the True Finder Integration, or TFI, control panel installed, double-clicking a StuffIt archive opens what looks, and acts, like a Finder window to reveal the archive's contents. You can get info on any item, compress, and decompress by moving files and folders in and out of the window, and even launch archived items. About the only difference between normal Finder windows and archive windows is that you can't view the contents of archive windows using the Finder's icon views.

You can also now create a StuffIt archive of a file or folder in the Finder by simply adding ".sit" to the end of its name. Adding ".sea" turns the archive into a self-extracting archive. Similarly, archives or self-extracting archives can be decompressed merely by removing the suffix. In previous versions, these features depended upon

having StuffIt SpaceSaver—Aladdin's bundled background file compressor—installed. You can also compress, decompress, and make self-extracting archives via a Finder menu, and even send the archives to a mail program like Eudora for shipping out to cyberspace. StuffIt also now lets you segment archives merely by dragging files onto it. However, despite this convenience we'd like a segment command.

StuffIt is also now more flexible. It offers a very high level of scriptability via either AppleScript or Userland Software's Frontier so that you can automate StuffIt's operation, send and receive scripts from telecom or other software, and write custom utilities. And StuffIt's polyglot features let you encode and decode a variety of PC and Internet formats, although the ability to create PC-standard .zip files is overdue. As a consolation, Aladdin includes StuffIt Expander for Windows, which lets PC users decompress StuffIt files.

Aladdin has moved forward this Mac standard and it has released a product with far fewer bugs than in 3.0. Those for whom user interface defines Mac software will find the new Finder integration best-in-class, while for power users, there's plenty of wiring to tinker with under the hood. —*Ross Scott Rubin*



Find the uncompressed review on the web site.



**GOOD NEWS:** Clever Finder integration and increased drag and drop capabilities provide a truly Mac-like experience.

**BAD NEWS:** The Magic Menu still doesn't quite live up to its name.

# Now

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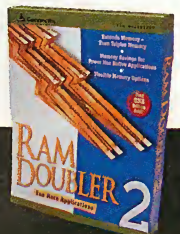
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# reviews



reviews

## Eudora Pro 3.0

**PUBLISHER:** Qualcomm

**CONTACT:** 800-2EU-DORA; <http://www.eudora.com>

**PRICE:** \$89 (srp); \$39 to upgrade

**REQUIREMENTS:** Mac Plus or better, System 7.0 or later,  
Internet e-mail account

| In |                   |                |        |                                       |             |
|----|-------------------|----------------|--------|---------------------------------------|-------------|
|    | Who               | Date           | K      | Subject                               |             |
|    | Dave & Jacqui Kra | Sunday         | 2      | Descent II review                     |             |
|    | Macaddict Contest | Sunday         | 2      | Contest Entry                         |             |
|    | Macaddict Contest | Sunday         | 2      | Contest Entry                         |             |
|    | apple-internet-au | Sunday         | 25     | APPLE-INTERNET-AUTHORIZING digest 469 |             |
|    | Cool              | Michael Lening | Sunday | 2                                     | What is it? |
|    | Macaddict Contest | Sunday         | 2      | Contest Entry                         |             |
|    | apple-internet-an | 6:08 PM -0700  | 3      | APPLE-INTERNET-ANNOUNCE digest 178    |             |
|    | Erin McLachlan    | 6:20 PM -0700  | 5      | Darren Gets Old                       |             |

**YOUR MAILBOX SHOWS** you messages at a glance. The new version will also download only headers from the server, allowing you to pick and choose which messages to retrieve.

**T**here's a new version of Eudora, and if you get a lot of e-mail, maybe you should even consider paying for this one. It offers a host of new features and improvements, from enhanced filtering to a new plug-in architecture. To upgrade, just launch Eudora, and it reads your mailboxes and nicknames. Eudora now uses drag and drop, so you can edit text by dragging it around and you can drag attachments into messages, obviating the need for Command-H.

Message text can be styled with font, size and color. Unfortunately, Eudora's MIME text/enriched type standard can't read Cyberdog's MIME multipart/alternative type. E-mail from friends who have gone to the 'dog gets mangled. At least Web site and ftp archive addresses within messages now are active links. But Eudora doesn't use Internet Config—you have to manually indicate your helper apps.

The Address Book now stores snail mail addresses, phone

numbers and nicknames. Data import and export between a PIM and Eudora isn't easy, though you can drag addresses from Eudora into tab-delimited text files (but PIM output must be massaged to get it into Eudora). There's also a highly customizable, but Windows-esque, toolbar. The toolbar obscures the desktop; you can't move it, but you can turn it off. Eudora's use of AppleScript is the most thorough of any e-mail reader, albeit a little strange. For instance, you'd think that the body of a message would be field "body." Nope. It's just field "".

Eudora is a stable program that is incredibly fast on Power Macs. Like a Twinkie, Eudora's insides are the best part. —Kathy Tafel



**GOOD NEWS:** Fast and flexible. Heavy-duty scripting support.

**BAD NEWS:** Reading e-mail in a spreadsheet is a little weird.  
Mangles Cyberdog mail. Quirky interface.



**FIND A DEMO of Eudora 3.0 on The Disc.**

# Now

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### In Living Color.



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# cd-roms

PAUL CÉZANNE ■ TOMMY ■ NIXON ■ CORY EVERSON ■ NINE WORLDS ■ ENCYCLOPEDIA OF SPACE AND UNIVERSE ■ OUR SECRET CENTURY

**J**udging from the looks of this month's CD-ROM selection, producers are betting the bank on the Internet. Three titles offer direct access to their own Web sites for timely updates on fitness, science, and even dead presidents. But sexy as it all

sounds, we've found that a Web link is no cure-all for crummy content. In fact, the titles that most charmed and amazed us this time around carry on quite well without an Internet crutch. Read on for the low down on the must haves and maybe not.

## Eyewitness Encyclopedia of Space and the Universe

**PUBLISHER:** DK Multimedia

**CONTACT:** 800-356-6575;

<http://www.dk.com>

**PRICE:** \$39.95 (street)

**REQUIREMENTS:** 2X CD-ROM,

System 7.0 or later, 25MHz 68LC040 or better, 8MB of RAM



to see a sample of the night sky anywhere in the world from 3,000 years ago to 7,000 years in the future. More than two hours of audio, 30 video sequences, 20 3D animations, and more than 400 color photographs and illustrations make it easy to digress. So, go ahead.

Digress your way through the history of

astronomy, the space race, the famous folks, the birth of the universe, and some really neat 3D ships. This space is the place.

### The Last Words:

**Judy:** The easy, clear interface made maneuvering simple. A great reference and learning tool.

**Mark:** Pretty cool! Though the text is served up in bite-sized chunks rather than the longer essays buried in the bowels of Nine Planets, the Eyewitness Encyclopedia's superior organization and extensive use of hypertext make it not just easy, but flat-out fun to wander about researching all things spacey.

**Adam:** I built a rocket on screen and launched it about 20 times. If I had this thing when I was in the 6th grade I'm sure I'd be an astronaut by now.



Everyone's a winner in this race for space.

**S**pace addicts and NASA followers will lose their grip on gravity when they start exploring space with DK Multimedia's stellar new encyclopedia. As comprehensive as any reference work and as adventurous as a moon landing, this disc blasts past its competition.

Watch Buzz Aldrin walk on the moon, listen to the crew of Apollo 13 as they radio back to Houston that they have one helluva a serious problem, or check out the Star Dome

## Our Secret Century: Vols. 3 & 4

**PUBLISHER:** Voyager Company

**CONTACT:** 800-446-2001;

<http://www.voyagerco.com>

**PRICE:** \$29.95 (srp)

**REQUIREMENTS:** 2X CD-ROM,

System 7.0 or later, 25MHz 68030 or better, 8MB of RAM



and dramatic safety films made between 1936 and 1962. To help you make sense of these creepy, yet comical, period pieces, media archaeologist Rick Prelinger supplements each film with historical background information, as well as newspaper, magazine, and book excerpts from the era.

Our Secret Century works as a truly effective educational tool, but unless you're a real sucker for kitsch, we can't figure out why you'd actually spend money on these things to watch them at home.

### The Last Words:

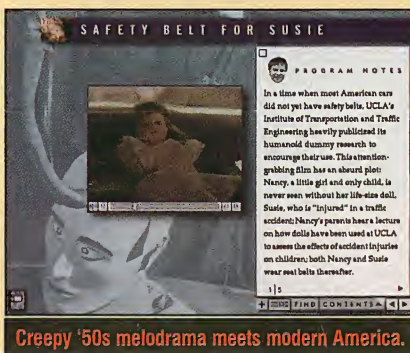
**Judy:** Retro makes a live and moving comeback; a "big brother, social decency" comeback. All the more frightening is that these films weren't made so very long ago...

**Mark:** My level of interest in kitschy '50s educational films is high enough to make Our Secret Century intriguing, but not enough to make it riveting.

**Adam:** So you long for a good old-fashioned dose of mind control from the social-guidance propaganda experts—now is your chance. Enjoy.

**“W**hen Jerry brags about taking Jenny out, he learns that she dates all the boys, and he feels less important,” says the narrator in “Are You Popular?” The next time you wax nostalgic for the good old days, take a look at Voyager's Our Secret Century series for a glimpse of how life used to be, or at least, how people thought it should be.

The 16 films that come packaged together as volumes 3 and 4 of this six-volume series include samples of '50s social propaganda



Creepy '50s melodrama meets modern America.



## Nixon: The CD-ROM

**PUBLISHER:** Graphix Zone

**CONTACT:** 800-828-3838 ext. 157;

<http://www.gzone.com>

**PRICE:** \$39.95 (srp)

**REQUIREMENTS:** 2X CD-ROM,

System 7.01 or later, 68040 or better, 8MB of RAM

(12MB for Power Macintosh)



**G**ood presidents come and go, but a hot scandal lasts forever, especially when Oliver Stone makes a movie about it.

Hosted by Alexander Butterfield, aka the guy who spilled his guts about the tapes to the Senate Watergate Committee, this Nixon ROM-umentary goes beyond mere scandal sheet hearsay or revisionist conjecture. In addition to scenes from Stone's controversial movie, Graphix Zone's version of Nixon's downfall is packed with 10,000 pages of previously

unpublished documents, Nixon tape and Watergate trial transcripts, Nixon video footage, 3D tours of the White House, biographies of more than 250 Friends of Nixon, and direct online access to even more Nixonia.

Despite a dull interface, the information on the disc is intriguing, if you can get to it. Depending upon the computer, the disc, and assorted random factors, sometimes the disc would work and other times it wouldn't. Fiddling with the memory requirements didn't improve things. Consistently inconsistent, what could have been a truly valuable historical

resource was marred by its untrustworthy performance, kind of like Nixon himself.

### The Last Words:

**Judy:** Coulda, woulda, shoulda. No music, no movies and almost no sound. And are we sure Oliver Stone's stuff is the best to include with all the historical, truth references?

**Mark:** It's a nice change to see a CD-ROM present itself as a fancified database rather than an interactive multimedia adventure. My pleasure was only slightly dampened by an unresponsive interface.

**Adam:** This thing had more bugs than a roach motel. Sorry guys, but Nixon could use some fixin'.



Nixon's term had fewer bugs than this CD.

## Cory Everson: Mind, Body and Soul

**PUBLISHER:** Philips Media

**CONTACT:** 800-883-3767;

<http://www.philipsmedia.com/media>

**PRICE:** \$39.99 (srp)

**REQUIREMENTS:** 2X CD-ROM, System

7.0.1 or later, 25MHz 68040 or better, 4MB of RAM



**C**rack open a can of guilt, sit back at your Mac, and let six-time Ms. Olympia Bodybuilding Champion Cory Everson remind you why you hate your local aerobics instructor.

Billed as the complete guide to total fitness, at first glance the disc sounds

appealing. Click on an area of the body and you're given a list of exercises to perform, descriptions of the exercises and their physical benefits, and frequently a QuickTime demonstration. You can also use the planning program to detail your diet down to the exact amount of raw brains you're going to eat on Tuesday (yes, raw brains are a menu selection).

Even though these ideas are useful for fitness buffs, they're not well-implemented, resulting in little less than a poorly designed log book. Worse, the disc contains few movies and

almost no audio. What it does offer are screens of scrolling text squeezed into narrow windows. No aerobics classes. No pulse-pumping tunes. Why not just buy a book?

### The Last Words:

**Judy:** If I've got to read the whole thing, just gimme the book already. This is multimedia, right?

**Mark:** Mind, Body and Soul provides very little you couldn't get from a paperback book, but I find the lack of ornamentation almost charming.

**Adam:** Why can't we give zero ratings? I really think we should be allowed to give zeros. I'll start designing the icon right now.



Weak CD can't pull its own weight.

## Nine Worlds Hosted by Patrick Stewart

**PUBLISHER:** Palladium Interactive

**CONTACT:** 800-910-2696;

<http://www.palladiumnet.com>

**PRICE:** \$39.99 (srp)

**REQUIREMENTS:** 2X CD-ROM,

System 7.0.1 or later, 25MHz 68040 or better,

8MB of RAM



**T**rekkies, back off. Nine Worlds, hosted by Star Trek: The Next Generation's, Patrick Stewart, has nothing to do with your campy cult show—there are no sexy aliens in this space story. But, there are a slew of interesting factoids and historical essays for the average Joe Astronomer.

If you're looking for a comprehensive guide to the planets, you'll probably be disappointed by the skimpy data show on this disc. But, cool planetary factoids and a fun travel

bit offer at least enough to impress your friends the next time you go stargazing.

Longer essays covering man's reaction to astronomy over the ages do lend some substance to this educational lightweight. Interesting info, even if it's slightly text-heavy.

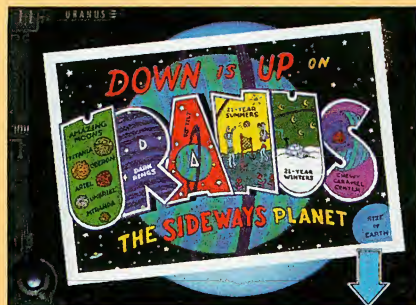
Other offerings include a small, but enticing, collection of shareware, a tiresome trivia game, a nifty factoid of the day, and direct online access to astronomy sites that include NASA and the Jet Propulsion Labs.

### The Last Words:

**Judy:** Patrick Stewart is the man. Good organization: by planet, by time periods, or by topic—cool science disc.

**Mark:** Aesthetically beautiful, yet lame in terms of content, Nine Worlds presents a richly detailed and tasteful technoid interface but precious little astronomical information.

**Adam:** Includes cool little factoids you can use to impress your friends: Pluto's orbit is so irregular that until 1999 Neptune will be the farthest planet from the Sun.



Space out over universally fun factoids.



## Paul Cézanne: Portrait of My World

**PUBLISHER:** Corbis Corporation

**CONTACT:** 800-246-2065;

<http://www.corbis.com>

**PRICE:** \$45 (street)

**REQUIREMENTS:** 2X CD-ROM,  
System 7.1 or later, 25MHz 68030 or better, 8MB of  
RAM (12MB for Power Macintosh)



studio where you can peek at a letter to former friend Emile Zola, or zoom in on Cézanne's palette to see exactly which colors he used to create his paintings. Great classics, as well as some of the artist's lesser-known works, can be found carefully sprinkled throughout the five virtual environments.

Although Portrait of My World was first created and released in France, Corbis did a fantastic job of

remaking the original without sacrificing its integrity. The title's intuitive index, divided into works by Cézanne and those of his pals, gives thumbnail previews of the paintings. Double-clicking takes you to their places on the disc.

Handy as the index may be, the super-cool, new QuickMove

feature is the true timesaver. A squared-off grid with blocks representing each screen on the disc shows you where you've been and where you still need to go before you can say you've seen it all. Like the index, clicking on a square gives you a thumbnail of the screen it represents. The database even remembers the settings for each user, so you don't have to worry about sharing with your friends.

And share you should. The Americans



The best French import since greasy fries.

have finally made a remake that's so good, even the French aren't complaining.

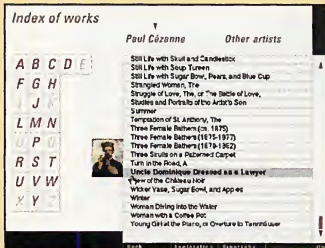
### The Last Words:

**Judy:** The index thumbnails were a great touch. Finally, someone actually used their brain when they considered design and a "user friendly" interface.

**Mark:** Too many CD-ROMs give the subject matter short shrift, focusing instead on obscure footnotes and gee-whiz design gimmickry. Portrait of My World, by contrast, remains lovingly focused on Cézanne's paintings, and is careful not to overshadow them with trivia or gratuitous trickery.

**Adam:** The interface is a little too choppy in parts, and the sound effects and the fake French accent narration a bit cheesy... but you know how the French love their cheese.

Short of digging through his trash, there's no better way of getting to know French painter Paul Cézanne than by walking your way through five of his fave hangouts that include a peaceful countryside, a 19th century train station, a local bistro, and an art gallery that holds the works of artists admired by Cézanne. Start your tour in his



One of two quick-and-easy indexes.



## Pete Townshend Presents: Tommy: The Interactive Adventure

**PUBLISHER:** MacPlay

**CONTACT:** 800-462-2752;

<http://www.macplay.com>

**PRICE:** \$40 (street)

**REQUIREMENTS:** 2X CD-ROM,  
68040 or better, 7MB of RAM



versions of songs from Tommy, but the small audio samples barely let you hear the difference among the three.

One section of Tommy (if you can find it despite the confusing interface), divides the disc by song, subject, personalities, media, and Pete's archive. This smattering of memorabilia leads to more disappointment no thanks to its extremely poor design and crummy content. Listen to a short clip of "Pinball Wizard" found under Pete

Townshend's demos and stare at an ear.

Just to further fatten Townshend's wallet, you get a final chance to stop by "Tommy Mart" before quitting the disc. Here you're shown the covers of all the Tommy recordings that you should have bought instead of this one.

### The Last Words:

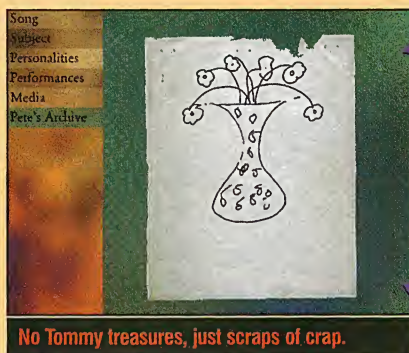
**Judy:** I'm a Who fan, but this just doesn't live up to its name or its potential. I liked the 'hear the song in all three versions: play, album, and movie-bit,' but what's with the teeny-tiny sound clips?

**Mark:** The scrapbook of background material might make a nice resource for those who already know this stuff backward and forward, but if I'm going to shell out money for a deluxe CD-ROM of Tommy, I want Tommy on the damned disc.

**Adam:** This thing is more WHY? than WHO? and sometimes WHAT THE @?&%)!!! The first five minutes aren't too bad, but how many times can you listen to Pinball Wizard, anyway?

Talk about a great rock 'n' roll swindle. Either Pete's mom finally threw out the scrapbook she's been keeping for him all these years, or Townshend is just really hard up for cash. Call up a section on the disc called Pete's Archives and see a piece of scrap paper upon which Pete doodled a flower. Who... cares?

Although Tommy does pack in a variety of nifty interviews (mostly Pete talking about Pete) and trivia (mainly about Pete), its treatment of the core material is downright cheap, boiling The Who's classic rock opera down to a collage of video snippets and sound bites (to make more room for words from Pete, we imagine). A neat feature lets you compare the album, movie, and musical



No Tommy treasures, just scraps of crap.





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# Kidz Stuff

Get the lowdown on the latest software from the Brisbane Elementary School MacAddicts.

**Y**ou don't have to be a 14-year-old male with a screaming Sega Genesis to love video games. And, you don't have to be a girl to just wanna have fun. In a massive show of enthusiasm for non-educational software, this month's review board went wild over the Disney arcade games and the PrintPaks Awesome Iron-Ons Kit. No doubt, these CD-ROMs won't teach your toddlers to like Tolstoy, but, according to the kids, they're a ton of fun.

This doesn't mean that our local over-achievers don't appreciate well-designed, cleverly written, highly interactive "edutainment"—several of this month's educational titles received fairly warm reviews. It just means that growing up in the computer age has given these kids high software standards.

But even young geniuses need a break every now and then. Maybe these kids are a little tired of constantly being taught. Maybe they just want to be kids. So let 'em.

## Meet the players...



**CARL LAM**, Age 11, Grade 5  
**EXPERTISE:** Math  
**PICK OF THE MONTH:**  
How Would You Survive?



**ADAM ALLEY**, Age 11, Grade 5  
**EXPERTISE:** Reading  
**PICK OF THE MONTH:** SkyTrip America



**ROCKSON YAN**, Age 11, Grade 4  
**EXPERTISE:** Computers  
**PICK OF THE MONTH:** PrintPaks Awesome Iron-Ons Kit



**AMANDA WALDO**, Age 13, Grade 8  
**EXPERTISE:** Horseback riding; fighting with Lloyd  
**PICK OF THE MONTH:** PrintPaks Awesome Iron-Ons Kit



**ANA RUDOLPH**, Age 12, Grade 7  
**EXPERTISE:** Singing and softball  
**PICK OF THE MONTH:** SkyTrip America



**ERIC GRIFFIN**, Age 10, Grade 5  
**EXPERTISE:** Baseball  
**PICK OF THE MONTH:** GameBreak: Timon & Pumbaa's Jungle Games



**HILARY WALDO**, Age 9, Grade 5  
**EXPERTISE:** Soccer  
**PICK OF THE MONTH:** GameBreak: Timon & Pumbaa's Jungle Games



**KATHLEEN MARIE MCKNIGHT**, Age 10, Grade 6  
**EXPERTISE:** Nature and naming things  
**PICK OF THE MONTH:** Gregory & the Hot Air Balloon



**LENA RUDOLPH**, Age 10, Grade 6  
**EXPERTISE:** Math  
**PICK OF THE MONTH:** GameBreak: Timon & Pumbaa's Jungle Games



**LLOYD WALDO**, Age 11, Grade 6  
**EXPERTISE:** F/A-18 Hornet  
**PICK OF THE MONTH:** GameBreak: Timon & Pumbaa's Jungle Games

## GameBreak: Timon & Pumbaa's Jungle Games

**PUBLISHER:** Disney Interactive

**CONTACT:** 800-900-9234; <http://www.disney.com>

**PRICE:** \$40 (street)

**REQUIREMENTS:** 2X CD-ROM, System 7.1 or later, 33MHz 68040 or better, 8MB of RAM



**Y**our kids probably won't pick up any extra book smarts, but they'll have a darn good time hanging out in this jungle arcade. Lion King scene-stealers, Timon and Pumbaa, run the show in a five-



Belch away bugs in a noxious shoot 'em up. game arcade that has kids throwing berries, burping at bugs, and hopping across rivers of hippos in this interactive spin-off of the Disney classic. The only irritation is a seemingly endless opening animation sequence that, happily, you can turn off later in the game.

**GOOD FOR GRADES:** 2 to 5

**LIKES:** "I liked the bright colors, the funny characters, and the fun game. You can really get hooked to it." ■ Hilary

"The animations were fantastic and the games were right out of an arcade." ■ Lloyd

"Well, I like the games... the graphics... you can say I like this whole game."

■ Rockson

**DISLIKES:** "I didn't like how Timon and Pumbaa talk so much." ■ Lena

"The music wasn't that great. There were too little games." ■ Rockson

"Nothing." ■ Hilary, Lloyd, and Ana

**SOUND ADVICE:** "I would not like to improve anything because the software is great." ■ Eric

**FINAL REPORT:** Cleaner than a real arcade and more fun than recess.





## PrintPaks Awesome Iron-Ons Kit

PUBLISHER: PrintPaks

CONTACT: 800-774-6860; <http://www.printpaks.com>

PRICE: \$24.95 (street)

REQUIREMENTS: 2X CD-ROM, System 7.1 or later, 68020 or better, 8MB of RAM, printer



This iron-on kit comes ready-to-wear.

Kids clamoring for hands-on activities will have their hands full with this colorful, fun, and easy-to-use iron-on kit. Max, the beanie-wearing dog, guides kids through the step-by-step process of creating, printing, and ironing a design on to shirts, sheets, and whatever else their parents permit. One children's large T-shirt and four letter-sized sheets of transfer paper are included. Although kids may be disappointed by the small collection of pictures, they can import their own photos and designs.

**GOOD FOR GRADES:** 3 and up

**LIKES:** "I like the pictures you can pick to put on the shirt. I like how they remind kids that the iron is dangerous to play with." ■ Rockson

"It has terrific graphics and is virtually impossible to mess up because it's step-by-step, and saves automatically." ■ Amanda

"They have cool pictures and funny sayings." ■ Hilary

**DISLIKES:** "Well, I didn't like that there were only a few pictures to pick." ■ Rockson

"I liked everything." ■ Hilary

**SOUND ADVICE:** "Put more pictures in the picking picture part." ■ Rockson

**FINAL REPORT:** Iron-ons are back!

## Reader Rabbit's Reading Development Library 3

PUBLISHER: The Learning Company

CONTACT: 800-227-5609; <http://www.learningco.com>

PRICE: \$30 (street)

REQUIREMENTS: 2X CD-ROM, System 7.0.1 or later, 8MB of RAM



Reader Rabbit and Sam the Lion are back as the hosts of two tales, "The Princess and the Pea" and "The Goose that Laid the Golden Egg". Young readers can follow along with either story by picking one of a cast of narrators who will read the story aloud either page by page, sentence by sentence, or word by word. Kids can also write letters to their favorite characters in these slightly fractured fairy tales by clicking on a choice of pre-formed sentences that are also read aloud. A simple matching game designed to help kids with word recognition skills is rewarded by a rockin' fiesta in the woods. Party on.

**GOOD FOR GRADES:** 1 to 3

**LIKES:** "I liked the animation and the realistic voices. The stories are funny and not boring." ■ Hilary

"I liked how if you were having trouble reading a word you could click on it and it would say the word out loud." ■ Adam

**DISLIKES:** "There wasn't much to do, just listen and watch." ■ Lloyd

"I didn't like how there were only two stories." ■ Carl

**SOUND ADVICE:** "Install point-and-click interactions, for example, if you click on an airplane, it flies away." ■ Lloyd

"I would have the icons be bigger and explanations of what they did under them." ■ Adam

**FINAL REPORT:**

Although fond of the fairy tales, these kids want just a little more book for their buck.



This arbor-harbored, two-story library uses its animal magnetism to appeal to young readers.

## Gregory & the Hot Air Balloon

PUBLISHER: Bröderbund

CONTACT: 800-521-6263; <http://www.broderbund.com>

PRICE: \$29 (street)

REQUIREMENTS: 2X CD-ROM, System 7.1 or later, 33MHz 68040 or better, 8MB of RAM



Gregory Chuckwood, and his pet lizard Newt (who has a strange dog complex) get trapped in a runaway hot-air balloon that hits ground near a carnival. Kids learn problem-solving skills as they help Gregory and Newt get home by scouring the carnival for such useful tools as a map and a helium tank. Before Gregory gets lost, he visits his Mom's bookstore where kids can choose from a variety of original stories to be read aloud.

**GOOD FOR GRADES:** K to 3

**LIKES:** "I liked the fact that it made you think. I also liked it because it was interesting and funny" ■ Kathleen



A wild balloon ride lands Gregory and his pet lizard in a kooky carnival miles from home. Can you help him get back?

"I liked how the background colors were. I liked how it showed what was in Gregory's backpack." ■ Lena

**DISLIKES:** "Some of the parts were boring because of long waits. There were also some badly drawn parts." ■ Kathleen

"My younger sister reviewed the software and she said 'nothing.'" ■ Rockson

"No comment." ■ Lloyd

**SOUND ADVICE:** "I think that you should have to do more instead of the computer doing all the work and fun stuff and talking." ■ Lena

**FINAL REPORT:** A talking woodchuck and a creepy carnival can't go wrong with kids, but they'd really like to be able to ride more of the rides.



## How Would You Survive?

PUBLISHER: Grolier Interactive

CONTACT: 800-285-4534; <http://www.grolier.com>

PRICE: \$24.99 (street)

REQUIREMENTS: 300KB/sec or higher CD-ROM, System 7.01 or later, 25MHz 68030, 4MB of RAM



**K**ids spoiled by modern conveniences (like computers) test their survival skills with the ancient Egyptians, Vikings, and Aztecs. Sounds like a challenge, but a mile in these sandals only gets you an assortment of informative, but barely interactive, screens and one boring trivia game. Still, some young historians (see Carl) are so fascinated by these ancient cultures, they'll take the info in any form.

**GOOD FOR GRADES:** 4 and up

**LIKES:** "It taught me a lot about how the Egyptians, Aztecs, and Vikings survived." ■ Ana

"I liked how the guide explained to me so I wouldn't be confused.

I liked the graphics." ■ Carl

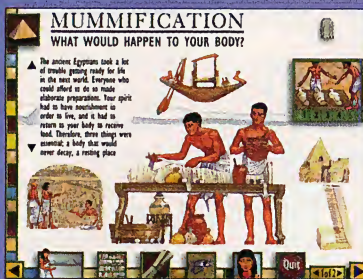
**DISLIKES:** "It was too complicated." ■ Lloyd

"I didn't like how we can only pick three types of people." ■ Carl

**SOUND ADVICE:** "Make it more understandable."

■ Lloyd

**FINAL REPORT:** Better than a text book, but not by very much.



Learn why Egyptians loved their mummies in this survival game.

## Theo the Dinosaur

PUBLISHER: Panasonic

CONTACT: 408-653-1887; <http://www.panasonic.com/cool>

PRICE: \$39.95 (street)

REQUIREMENTS: 2X CD-ROM, System 7.0 or later, 8MB of RAM



**T**heo Saurus and his dino-pals learn to read, cook, and ride skateboards with the help of the Lava Computer in this beautifully drawn, but poorly designed electronic storybook. Overall, the clever story and cute animations were lost on bored children itching for something to do. Even worse, if you don't read the manual, you won't know that you can hit Command-Q to get back to the opening screen.

**GOOD FOR GRADES:** 1 to 3

**LIKES:** "It has a lot of songs and sounds." ■ Ana

"I liked how they made it educational and funny at the same time." ■ Eric

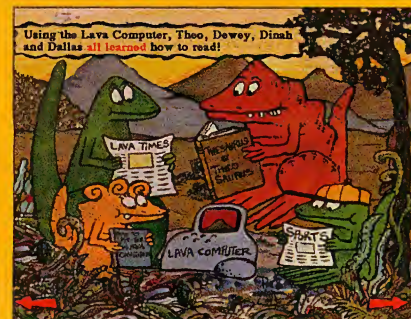
**DISLIKES:** "It wasn't that realistic and they made the facts false. They said that dinosaurs found the first computer (which isn't true) and little kids might believe that." ■ Ana

"It was like a carry-on story that took too long to get to the point." ■ Hilary

**SOUND ADVICE:** "The graphics, sound. Improve the whole software." ■ Rockson

**FINAL REPORT:** Extinction is too good for this dinosaur.

Theo Saurus, get it? Kids didn't.



## SkyTrip America

PUBLISHER: Discovery Channel

CONTACT: 800-678-3343; <http://www.discovery.com>

PRICE: \$34.95 (street)

REQUIREMENTS: 2X CD-ROM, System 7.0 or later, Performa or better, 8MB of RAM



**W**hether you choose to cruise through American history in a hot-air balloon, a hoverjet, or a winged sputter-clunker you'll see historical hot spots in every state and learn about key events like the Industrial Revolution, Ponce de Leon's discovery of Florida and the Salem witch trials. Take advantage of this time travel technique to fake a career with the Pony Express or tour a 3D ghost town. Track your travels by storing photos, articles, and video in your journal.

**GOOD FOR GRADES:** 3 and up

**LIKES:** "I liked that you got to see some of the most famous sites." ■ Eric

"While delivering letters you can call up movies and stories of important events in the past 400 years." ■ Lloyd

"Very nice pictures and graphics. You can learn about a lot" ■ Ana

**DISLIKES:** "It takes very long in the beginning. It takes too long to get the thing you're going to fly. It's hard to quit." ■ Ana

"There's nothing to do in this program that's fun. There's nothing that would make a student play it (unless the student is doing a report.)" ■ Carl

**SOUND ADVICE:** "Make it more fun." ■ Ana

**FINAL REPORT:** History isn't all fun and games, but this trip would be more fun if it were.

Travel back in time to witness 1692 justice in action at the Salem witch trials.



## What the Adults Thought

**K**ids may love the cute, cuddly animals that host their electronic education, but parents will want earplugs when the teddy bears start talking. Case in point: Gregory & the Hot Air Balloon. Our reviewers got a kick out of adorable little Gregory and his high-pitched, fake woodchuck voice. Strangely, they didn't mind the long, drawn-out animation scene at the beginning of the disc either.

We almost went into convulsions from the woodchuck whine. Nails on a chalkboard would have been music to our ears in comparison. Gregory the Talking Woodchuck is not alone: he's just one of a new race of talking animals overpopulating the children's software world. Maybe one day software developers will take pity on us and package ear protection with their saccharine-sweet CD-ROMs.

Which brings up another packaging issue. We were very disappointed that the PrintPaks Awesome Iron-Ons Kit included only one large children's T-shirt to decorate. The shirt didn't fit anyone at MacAddict, except Cheryl, who's just a big kid anyway. We're wondering, where's the PrintPaks Awesome Iron-Ons Adult Kit?

Another adult favorite: GameBreak: Timon & Pumbaa's Jungle Games. We enjoyed jungle pinball and the Burper as much as our younger counterparts. Parents won't mind supervising their kids' computer time with cool games like this one. And, although Timon and Pumbaa do chatter, their voices won't leave adults longing for bedtime.



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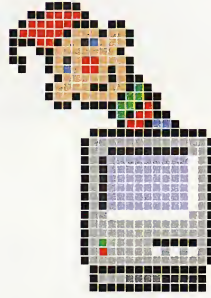


# how to customize icons

Go beyond simply pasting in premade icons by using ResEdit.

**Y**ou probably already know that you can create custom icons for your hard drive, folders and files by pasting pictures into the Get Info window. There are plenty of icon collections from which to choose and widgets that create folder icons from big icons. But to fix an icon that looks icky against a custom background, or to change the look of all the folders on your system, or to animate icons, you'll need to edit icon resources.

What the heck are icon resources? And are they as scary as they sound? Resources are bits of data stored in files in a way that makes it easier for non-programmers to hack the Mac's looks. ResEdit is a program Apple made way back in 1984 to get at those resources. The Mac includes more resources than just those for icons.



While you can hack your Mac's alert boxes and error strings, the safest things to fool around within ResEdit are icons. If you try editing other kinds of resources, you might accidentally delete the code that makes an application run, or change it so that the desktop icons don't show up properly. Here's what it boils down to: if you don't know what you're doing, don't touch it.

We've included ResEdit and a bunch of icon collections on The Disc. Use these resources to try the following three icon-customization tricks: editing an icon, changing the look of all the folders in your System at once, and creating and animating an icon for your Apple menu. Before you get started, take a look at this image of ResEdit to become familiar with its terms and abbreviations. —Kathy Tafel

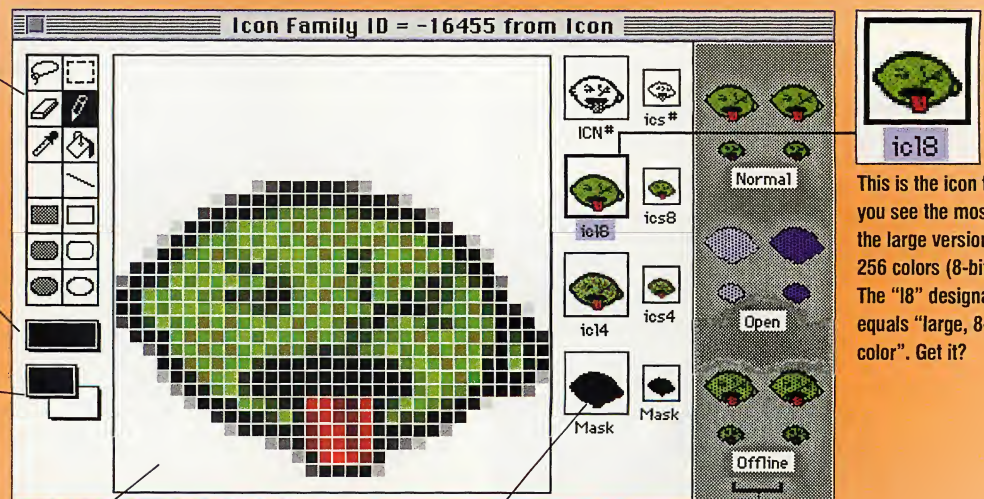


Pop in The Disc to find the tools you need for these tutorials.

## What Is All This Stuff?

Each icon has multiple versions: for example, a version for the large icon view, a version for the small icon view, and a version for a black-and-white monitor. You can drag an icon from one type to another, and ResEdit will

dither it to the proper bit-depth. Alternately, you can edit each version of an icon. Here's what you'll see when you open ResEdit's icon editor, as well as a quick guide to what it all means.



1. Everything in this standard Mac drawing palette behaves as you'd expect.

2. The pattern picker can be torn off and used as a palette.

3. These are the background and foreground color pickers. The foreground picker can also be used as a palette.

4. This is the main icon editing window. You can paste images from another program in here.

5. The mask tells the Finder where to let the background show through (the white part) and where the mouse can click (the black part).

6. These are previews of the icon against a gray background. You can also switch to white, black, or your desktop background from the Icon menu. The left-hand column shows the icon when unselected, and the right-hand column shows it as selected. Normal and Open are obvious; Offline refers to ejected floppies.

This is the icon that you see the most—the large version in 256 colors (8-bit). The "18" designator equals "large, 8-bit color". Get it?



# Premade Icons

before

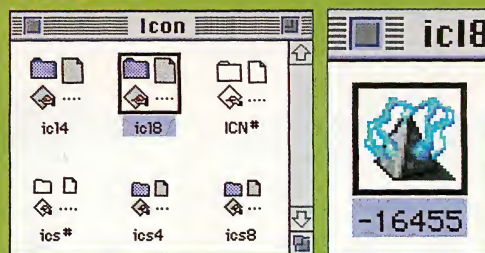


after



This icon from Dan Cook's ICONS! pack would be great to use for a hard drive, except that the white between the lightning bolts totally destroys the look of a custom background picture. We'll fix this using ResEdit.

## STEP 1 Get Set Up



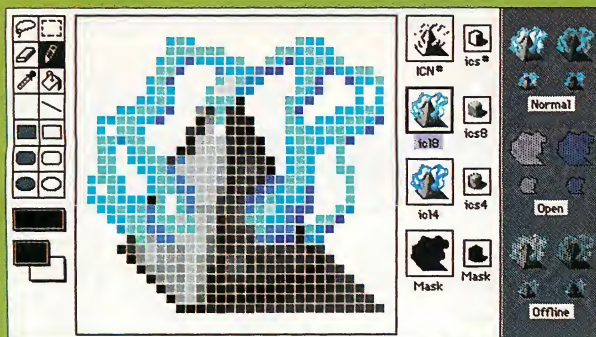
(a)

(b)

Paste the icon into the hard drive's Get Info window, creating an invisible file which stores the icon info. This file is located inside the folder or drive to which it belongs. Launch ResEdit and open this file ("Icon") from within the program. Double-click (a) to open the icon types then (b) on the icon to open the editor.

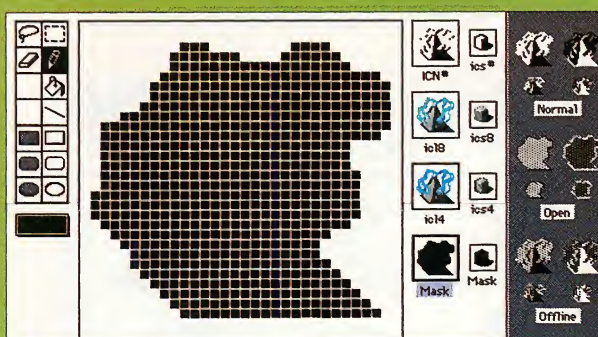
how to

## STEP 2 Inspect the Icon



You'll see this window. Here's where you can edit the icon. Notice how the icon looks fine against the white background, but against the gray background the white shows through.

## STEP 3 Mask the Icon



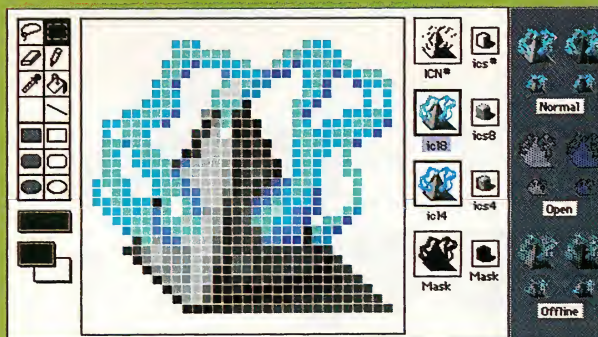
To fix this white-on-gray problem, click on the Mask for the icon. The mask tells the Finder where the background will show through (the white areas) and where it won't (the black areas). The black parts are also the "clickable" parts—you can't select the icon in the Finder by clicking on the white parts.

## STEP 4 Clean Up



Select the pencil tool to erase the black parts, creating spaces by clicking on individual pixels. You might have to switch back and forth between the Mask view and the icl8 view a few times to get it just right.

## STEP 5 Inspect and Save



Switch back to the icl8 (large 256 color) icon. Notice how the background shows through on the gray preview. Save your work and quit ResEdit. You'll need to restart your Mac to see your changes.



# The Fastest Way to Change All of Your System Icons

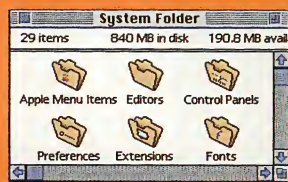
how to

before



Can you imagine that most people actually leave all of their folders alone, going through life never knowing that they can have folders that aren't just blue and flat?

after



Whew! Much better—the Manila Folder icons also replace the icons in your System Folder.

Now that you've got your custom icon stylin' on one folder, go ahead and change the icons system-wide. We've included a couple of icon sets you can use to replace the default system icon. This example uses Iain Anderson's freeware Manila Folder Icons which you can find on The Disc.

Some folks actually muck about in their System file to change icons. But this can get dangerous and sometimes doesn't even work. (Can you say "dreaded question mark"?) There's a much easier—and safer—way to replace these icons. Adding the icon resources to the Finder preferences file will override the default icons in the System and Finder files.

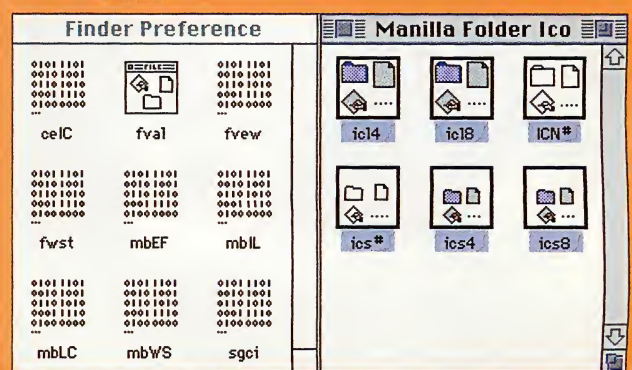
To get started, open your System Folder and then the Preferences folder. Duplicate your Finder Preferences file by either option-dragging it somewhere else on your hard drive or choosing Duplicate (Command-D) from the File menu.

## STEP 1 Get Organized



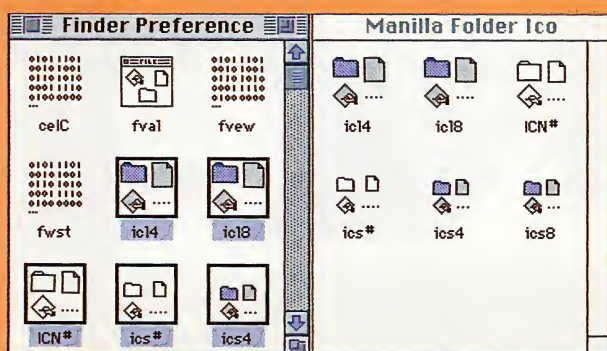
Put the Finder Preferences file at the root level of your hard drive while you work. Always work on a copy of the Finder Preferences file in case something should—gasp!—go wrong. Open the duplicate Finder Preferences file and the Manila Folder Icons files in ResEdit.

## STEP 2 Select the Resources



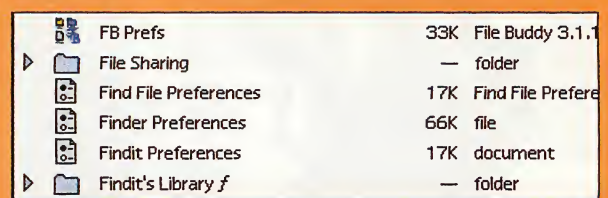
Select all of the resources in the Manila Folder Icons file (Command-A) and then copy them (Command-C).

## STEP 3 Paste the Icons



Paste (Command-V) the icons into the Finder Preferences copy. Save your work, then quit ResEdit.

## STEP 4 Replace Old Preferences



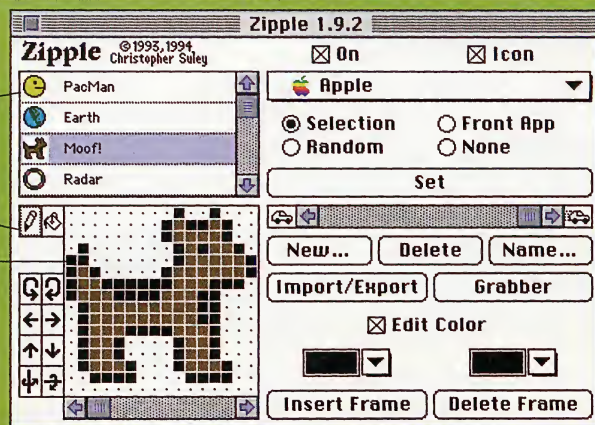
Now, put your original Finder Preferences file from your Preferences folder into the Trash, but don't empty it. Place the modified copy of the Finder Preferences file into your Preferences folder and restart your Mac. You should see the world in Technicolor now. You can pull your old Finder Preferences file out of the Trash and store it somewhere (rename it something like "boring Finder prefs"), or just throw it away and forget you ever had such a hum-drum Mac experience.



# Learn to Animate Your Icons

**Z**ipple is a control panel that can be added to your System to animate your Apple, Help and Application menus' icons. Zipple collections are stored in ResEdit files, so you can import files created by other people, and export those you've created to give to your friends.

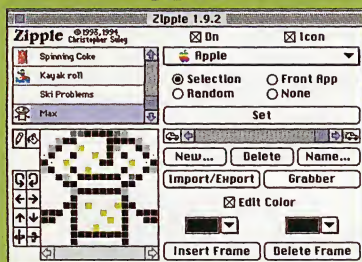
1. You can create and save whole bunches of animated icons with Zipples.
2. When editing icons you get to create great art with only two tools and a 16 x 16 pixel grid.
3. Copy your favorite image onto the Clipboard and paste it here.



how to

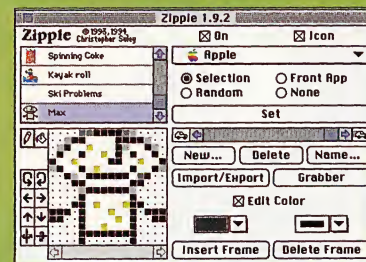
## STEP 1 Name Your Zipple

Making a new Zipple involves the fine art of icon editing—you get to create works of art using only 16 colors in a 16 x 16 pixel grid. To start, open the Zipple Control panel, click on New, and name your Zipple. We'll design a Zipple of our mascot Max giving his ever-so-subtle reaction to a really bad product.



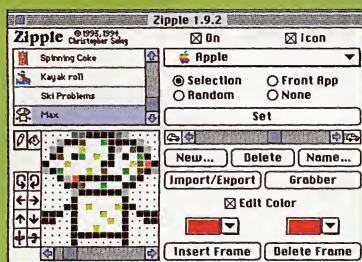
## STEP 2 Paste in an Image

We made a 16 x 16 rendition of Max in an image editing program and pasted it into the Zipple palette. The Zipple Control Panel reduced the palette to sixteen colors for us. We didn't have much room to work in, so we cut off Max's legs—he really wasn't going to walk anywhere anyway.



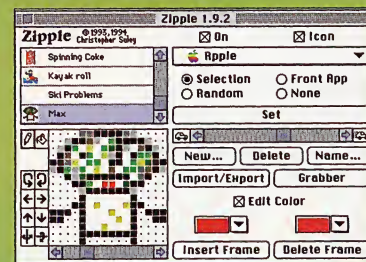
## STEP 3 Create a Mask

The squares with dots in them indicate a mask, although they actually work more like an anti-mask. Color in the bits of the background where you want the menu bar to show through. You can't really tell the difference against a white background, but if you have a utility installed (like Aaron or Aurora) that colors the menu bar, the Zipple would look weird.



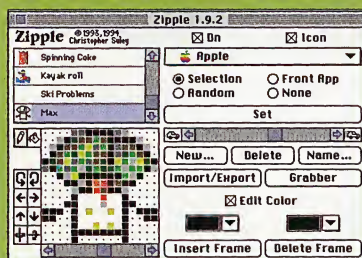
## STEP 4 Make the Frames

Next, click on Insert Frame to duplicate the current frame. In this, the second frame of our animation, we've made Max's mouth a little grimmer and his face slightly greener.



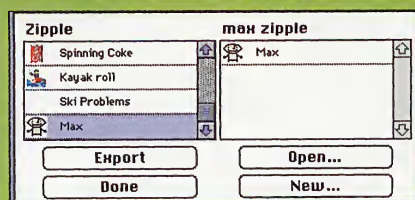
## STEP 5 Complete the Animation

In the third frame, Max is much greener, and is beginning to stick out his tongue. By the fourth frame, Max is completely horrified by whatever he saw. To complete the animation, cut-and-paste the frames in reverse order and duplicate the end states. You'll see Max grow greener and stick out his tongue and then reverse to his original healthy self.



## STEP 6 Share Your Zipples

Make a file to give to all your friends. Just click on Import/Export to get this screen. Click New and make a new ResEdit file on your drive. Select the Zipples you want to share, and click Export. Give them to your friends or send them to us—we'll showcase the best of the lot.





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# TOP 10 WAYS

TO KNOW  
YOU'RE A

# Mac Addict

10. Your 486 works great—as a flower press

9. You constantly double-click the bar of soap in the shower

8. You talk in a wild, animated manner about new “extensions” and “peripherals”

7. You can't resist the urge to use “Command Y” to eject your Pop-Tarts from the toaster

6. You wish this was a “Top Five” list so you could get back to your Mac sooner

5. You read “Inside Macintosh” to your three-year old Mac whiz instead of Dr. Seuss

3. You paid \$150 for an old Homestead High School yearbook picturing Stephen Wozniak

4. You turn on the TV and are concerned when you don't see a smiling icon

2. You are always telling people you can quit using your Mac anytime you want to...



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# how to work with HTML

how to



FIND THE  
SHAREWARE  
mentioned on  
The Disc in  
this issue.

Lesson Two here at Webmaster School teaches you how use HTML.

**H**yperText Markup Language—HTML—is the blood and skeleton of the World Wide Web. It's the vital fluid that courses through the wires and flows into your Web browser, and it's the bony structure that supports the formatting of text as well as the images, sounds and links that make the Web the loud and bright place it is. Building a page on the Web means working with HTML. If you don't like getting your hands dirty, you should pick an all-in-one page-creation tool like Adobe PageMill (though, with PageMill, you'll be limiting the final appearance of your pages). If you're up for a bit of innovation, HTML is susceptible to some creative manipulation.

## Dammit, Jim, I'm an Editor, Not a Programmer!

You don't have to be a writer to work with HTML; You do have to be an editor. Imagine a plain sheet of paper filled with text. You're a magazine editor, blue pencil in hand: emphasizing text, marking a sentence to become a pull quote, promoting a sentence to a heading, and marking where the illustration should go. When you're finished, the marked-up typewritten page is hardly readable, but in the magazine it's going to be beautiful.

Using HTML, you'll do the same thing to a Web page. Using your favorite word processor, you'll mark up the original ordinary text until it's nearly unreadable. Then a Web browser will interpret your markup and display something attractive, inviting, and even stunning.

I won't teach you HTML from the ground up. There are 2,564 HTML books in the bookstores, up from six a year ago, and an equal number of HTML-authoring Web sites.

## Time Off for Good Behavior

Since many hours of work go into the best Web pages, use low-impact work habits right from the start.

You'll be working with your Web page open in both your word processor and your favorite browser. First, save your page as a text document. Then use your browser's Open or Open File command to open your local copy of the page. (Clearly, this is a job that screams for two monitors, but there's no sense crying about that.)

While you'll do most of your work in one browser, you should download the major Web browsers so that you can see how your pages will look to different visitors. Get Netscape Navigator, Internet Explorer, Mosaic, MacWeb, and Cyberdog (our Web site provides links to these browsers).

This is the recipe: Mark up some text in the word processor, save changes, switch to the browser, click the Reload button, check the results, switch back to the word processor, and fix the HTML. Repeat as needed. It doesn't take a genius to see the need for a macro utility like CE Software's QuickKeys, Affinity Microsystems' Tempo II Plus, or the shareware program KeyQuencer. Assign a single command key that switches to the browser and reloads the page, and another command key to switch back to the word processor. If you're lucky

## Why You Need to Know HTML

There's a flood of inexpensive (and expensive) tools for creating Web pages, but you already own the best tool: your favorite word processor. Typing HTML tags into a word processor will force you to learn the language of HTML, and that's important if you want to create pages with a distinctive look. Take a look at these two sites to see what we mean.

### Straight Out of the Box



This site uses HTML in very conservative ways. On the plus side, this page loads fast and it looks similar on every platform and browser. But, sigh, it looks just like every other Web page.

### The Way it Oughta Be



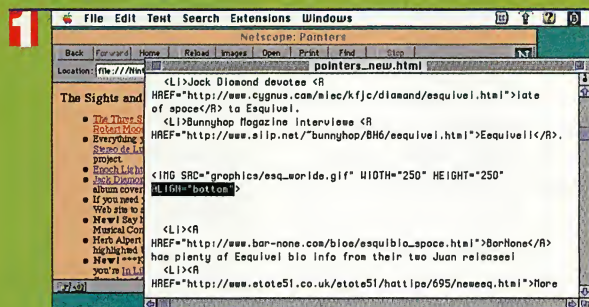
Tweak, (<http://www.tweak.com>) an irreverent online magazine, has a distinctive look that can't be accomplished with traditional HTML thinking. It uses unique fonts in the title and the eight buttons (A and B) are not HTML text at all, but graphics. The unusual left/right split of the page contents is accomplished with a table, its border set to zero. The buttons are aligned across the bottom in five cells of the table: the left-most cell is empty. Finally, the black and white background is a single background graphic, and the table was sized to align the words nicely inside each color. These pages don't come out of any page-creation application.



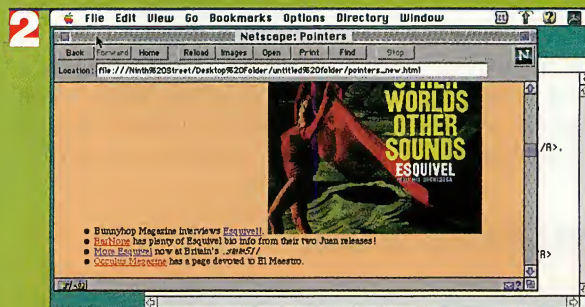
# Browser Shuffle

Because HTML consists of text commands that are typed into a word processing document, you'll need to constantly view the results of the commands in a browser. Make your life easier by keeping two windows open at once—the document that's

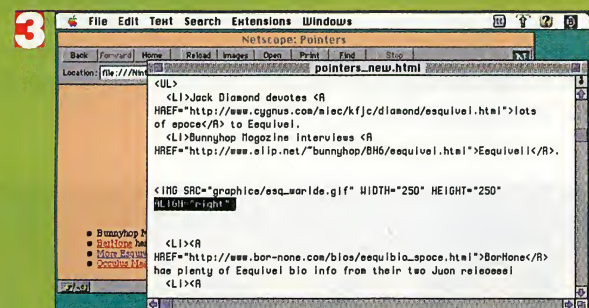
marked up in HTML and your browser. You can either switch back and forth by clicking on the windows with the mouse, or you can create a macro to do the work for you. Either way, you'll be doing a lot of this: type, switch, view, switch, type...



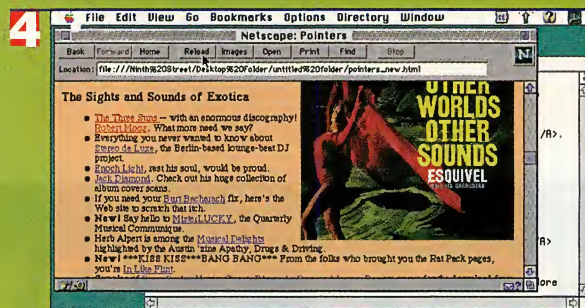
Position your windows so you can easily move back and forth between your word processor and Web browser. Here we've marked up some text in the word processor.



Switch to the browser and click Reload. Oops. ALIGN="bottom" makes for an ugly page.



Back to the word processor. ALIGN="right" is more along the lines of what I want.



And back to the browser. Yep, that looks much better. Now back to the word processor.

enough to have two monitors, a single command key can reload the page and take you back to the word processor.

You can also use a macro utility to automate most of the HTML markup. I use QuickKeys, for example, to accomplish probably 75 percent of what most page-creation applications offer.

Automating isn't quite as simple as just pasting in each HTML tag, because most tags surround text. Here's the macro secret: cut-type-paste-type. Here's a sequence for italicizing a snippet of text: You must first manually highlight the text to be italicized. Your macro will then: Cut. Type <I>. Paste. Type </I>. A similar sequence can be used for dozens of the most common tags.

If you're a macro-writing whiz, you can make macros for more advanced tasks, like lists. It's even possible to create a macro that converts a Word table first into tab-delimited text and then into an HTML table, all triggered by a single command-key. (Hint: each tab represents the end of one table cell and start of another, and each return signals the end of a cell, end of a row, beginning of a row, beginning of a cell.)

Save more time by creating a template of a blank HTML page. At the very least, it should contain the tags that belong on all HTML docs: <HTML>, <HEAD>, </HEAD>, <BODY>, </BODY>, </HTML>. You can also include a dummy title, <TITLE>Put Title Here</TITLE> and top-of-the-doc header, <H3><CENTER>Big

Header for this Page</CENTER></H3>, plus elements you want on every or most of your pages, like copyright info, a Go Home icon, and an e-mail icon. Lock the template or save it as stationery and be happy for the rest of your days.

## Will I Go Straight to Hell for Lusting After PageMill?

If you were a car buff and you rebuilt a 1967 Mustang convertible from the ground up in your garage, you'd be deeply in tune with its most subtle inner workings. But no car buff manufactures wheels, bumpers, and windshields in the garage. My point? There is indeed a time and place for a page creation application. These things can be undeniably handy—in fact, indispensable—for creating complex elements like frames, which are tedious to write by hand and hard to turn into a macro.

There are a few good inexpensive tools—World Wide Web Weaver (\$50 from Miracle Software; 315-265-0930) and the shareware program, PageSpinner, come to mind, and more arrive almost daily. (Check the list maintained at ComVista's Internet Services Directory—you'll find a link to it in the Hot Links section of our Web site.) Current versions of Microsoft Word and WordPerfect include decent HTML tools, but they don't hold a candle to the

## Hot Tip:

As you spell check your HTML page in your word processor, add all the common HTML tags to the dictionary as you go along—if your application permits, create a custom HTML dictionary.



stand-alone applications, and they make editing the raw HTML code difficult.

The best inexpensive compromise between a word processor and a stand-alone application is BBEdit Lite, a simple, free word processor from Bare Bones Software that can use plug-in extensions like Lindsay Davies' HTML Tools version 1.3, a suite of 12 shareware utilities. These utilities perform functions like automatically creating a list of all links within a document, and creating the start and end points of an anchor. The learning curve for BBEdit is a tad steeper than it is with other word processors, but BBEdit is more flexible and powerful.

For my money, once you graduate from typing tags in a word processor, you may as well go all the way to Adobe PageMill. Version 2.0 may or may not have arrived by the time you read this. New features include drag and drop conversion

and installation of graphics and sound, the ability to preview pages from within the application, simple graphic creation of tables and frames, and easy access to raw HTML code.

In the meantime, check out these free BBEdit extensions which fix some of PageMill 1.0's less attractive results. Chad Magendanz's Format HTML makes PageMill's HTML text much more readable, and Lindsay Davies' PageMill Cleaner (included in HTML Tools version 2.0) fixes some of PageMill's more questionable HTML choices. At this writing, PageMill Cleaner works only with the commercial version of BBEdit (\$119 from Bare Bones Software, 617-676-0650).

If you do succumb to the temptations of PageMill, please don't totally cave in and create all your pages the easy way. A page-creation tool, even the best, will only let you create pages that look pretty much like every other page on the Web. Dare to create pages that go beyond HTML's designed purpose—learn the language. —Joseph O. Holmes

### Three of the best HTML books are:

**How to Use HTML3** by Scott Arpajian (Ziff-Davis Press, 1996) ISBN: 1-56276-390-3. Heavily illustrated, tutorial oriented.

**Teach Yourself Web Publishing with HTML 3.0** in a Week 2nd edition by Laura Lemay (sams.net, 1996, ISBN: 1-57521-064-9). A terrific teacher.

**HTML: The Definitive Guide** by Musciano & Kennedy (O'Reilly & Associates, 1996, ISBN: 1-56592-175-5). No hand holding, but excellent detail.

Buy these books. Read these books. Memorize these books. In the meantime, study your Web School lessons on efficiently working with HTML.

how to

## Thou Shalt Steal

This is the hottest tip you'll ever read here or in any book or magazine. Find a page you admire, or one with an unusual layout or formatting, and swipe the code. Here's the deal: it's all right to steal HTML formatting ideas. It's not all right to steal the content. Got it? Find a fabulous-looking page, choose Save As and then select Source from the pop-up menu. Open the saved page in your word processor. (Note: if you open the page in WordPerfect 3.5 or a version of Word 6 that has the Internet Assistant installed, the HTML code will be hidden.)

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Actual online screen shots



System Requirements: Any PowerPC Macintosh with 16 Mbyte RAM (or more) running System 7.5 and Sound Manager 3.1 (or later). 9600 baud Modem and Internet access (supports serial connection or TCP/IP using optional third party tools). Joystick recommended.

Interactive Creations Incorporated - 1701 West Northwest Hwy, Suite 220, Grapevine TX 76051, Voice (817) 424-5638 / FAX (817) 251-2228





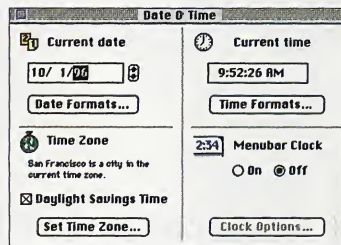
# ask us

## your questions

We answer all of your technical questions, no matter how simple or complex.

**Q** My color startup screen recently started showing up in black and white. How do I make it appear in color again?

**A** Assuming your Monitors (or Monitors & Sound, depending upon your System version) control panel is set to display colors—never overlook the obvious—here's a situation where zapping PRAM might actually help. Zap PRAM by holding down Command-Option-P-R upon startup.

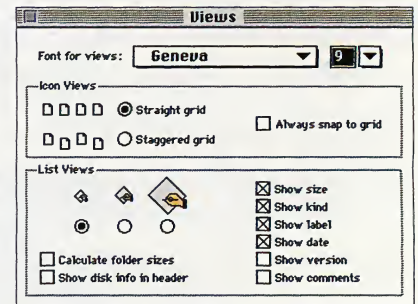


If your favorite applications correctly use the Date & Time routines in the Mac OS, you needn't fear the year 2000.

**Q** The mainstream media has been making a fuss lately about computer programs that will have trouble handling dates beginning in the year 2000. Can the Mac handle such dates?

**A** Yes, the Mac has always correctly handled dates between January 1, 1904 and February 6, 2040. With the introduction of the Date & Time control panel in System 7.1, the Mac gained the ability to handle dates between 30,081 B.C. and 29,940 A.D., although the control panel currently won't allow you to enter dates outside the range of

1920 to 2019. It's up to developers to use the Mac's date-handling routines in their applications, and while some may have failed to do so, that should change when Apple releases a revised Date & Time control panel as part of Mac OS 8 and developers update their applications for the new operating system.



These default settings for the Views control panel are stored in the Finder Preferences file, not PRAM.

**Q** My Mac keeps forgetting the settings in the Views control panel. I've zapped PRAM and rebuilt my desktop to no avail. What do you recommend?

**A** Zapping parameter RAM doesn't help because these settings are stored in the Finder Preferences file, not PRAM. Chances are your Finder Preferences file has somehow become corrupted and needs to be replaced. Open the Preferences folder inside the System Folder and drag the Finder Preferences file to the Trash. Upon restarting, the Mac creates a new file from scratch with its default settings.

**Q** Should I buy a level 2 cache for my Power Mac?

**A** In a word: yes, because a cache makes your Power Mac run appreciably faster. Unfortunately, deciding which cache to buy is a bit complicated, but it's worth understanding the fundamentals to make sure you end up with a product that suits your needs.

Inside every Power Mac is a fast PowerPC chip with a small amount of memory called a level 1 cache. The function of this cache is to store frequently requested data close at hand in high-speed memory so that it can be retrieved by the processor much faster than if the data resided in the relatively slower, random-access memory (RAM) on the motherboard. (Don't confuse this RAM cache with the Disk Cache in the Memory control panel; they are separate and unrelated.) Up to a point, the larger the cache, the faster the overall performance of your computer. Since a level 1 cache is built into the PowerPC chip, you can't increase its size, but you can often add a level 2 (called L2) cache for better performance.

Many Power Mac models have a special slot on their motherboards for an L2 cache which looks a lot like a standard memory module, although the two are not interchangeable. (If your Mac doesn't have an L2 cache slot, there's no way to add one.) Some models



ALL OF THE SHAREWARE programs mentioned are included on The Disc.

## Desktop Decoration

While it's common knowledge that Microsoft Windows is a poor imitation of the Mac OS, it still has some enviable features. Case in point, Wallpaper, which allows you to put repeating patterns or full-screen pictures in the background of the desktop. Sure, Mac users can change the Finder's desktop pattern in the General Controls control panel, but the Mac OS lacks the ability to display actual pictures without a third-party utility such as DeskPicture from Peirce Software. This control panel makes it easy to display one or more pictures on the Finder's desktop with System 7.0 or higher. There are all sorts of options for placing, scaling, and automatically changing pictures, and it even supports multiple monitors. DeskPicture used to be part of the commercial Now Fun! collection from Now Software and is easily worth the \$19.95 shareware fee.

Peirce Software's DeskPicture allows Mac users to "wallpaper" the Finder's desktop with full-screen images, not just repeating patterns.





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the Internet and kick the crap  
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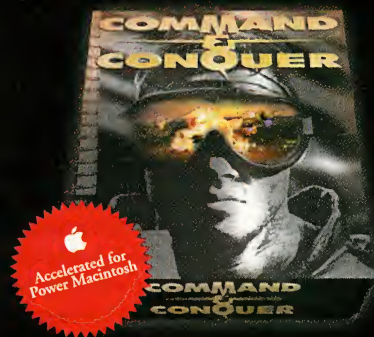


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come with caches already installed, but on others the slot is empty and it's up to you decide whether to add an L2 cache. If you're not sure if your Mac already has an L2 cache installed, you can either open your computer and look for a module in the cache slot or you can launch a utility such as The L2 Company's Cache Tester or Newer Technology's Cache-22, both of which determine the presence and size of your cache, along with other useful information.

Since there's usually only one cache slot in a Mac, you want to buy the largest L2 cache that you think you'll ever need. The most common cache sizes are 256K and 512K, although some vendors have introduced 1MB modules, and caches as large as 4MB are theoretically possible on some machines. A good rule of thumb is to get a cache that's at least 1/3rd the size of your RAM. That means a 256K cache for up to 8MB of RAM, a 512K cache for up to 16MB, and a 1MB cache for larger configurations. (Anyone using the DRAM based video on a Power Mac 6100, 7100, or 8100 should get a 1MB cache regardless of the amount of RAM, since performance is greatly increased when the entire video image resides in cache.) There's no harm in getting a larger cache than you presently need, but you'll realize diminished returns as you go from one size to the next largest size. In other words, don't expect a 512K cache to give you twice the speed improvement as a 256K cache. By the way, there's no performance difference between like-sized caches from different vendors.

Because of physical and electrical considerations, there is no single cache that can be accommodated by every Power Mac model. When ordering a cache, be sure to specify into which Mac it's going (if you've installed a clock accelerator, be sure to mention that, too), and make certain the vendor offers a money-back guarantee. Because the Power Mac 7500/100 has the highest bus speed (50MHz) of all Power Macs, it's proven somewhat troublesome for third-party caches. For this reason, many Power Mac 7500 users have opted to pay a premium for the highly regarded cache from Apple. If you take a modicum of care, installing a cache is something you should be able to do easily by yourself with the vendor instructions. However, if your Mac is difficult to open, or you're unsure of yourself, it's worth the peace of mind to pay a technician to install the cache.

Once the cache module is installed, you should immediately notice that processor-intensive tasks, such as 3D rendering and sorting RAM-based information, run much faster; benchmarks typically show an overall speed improvement of 10 to 30 percent. However, just

because the Mac seems to be OK at first doesn't mean everything is jake. Caches can cause intermittent problems if they're not properly designed for your Mac. If your Mac exhibits strange behavior after the cache is installed, see if the problem goes away when you remove it. If so, return your cache to the vendor for a replacement or refund.

**Q** I've heard that the Quantum Fireball hard disks inside Power Macs (and clones) have a problem that can cause data corruption. What's the straight dope?

## Fun Factoid

# So Sue Me

In November 1981, Apple Computer paid an undisclosed sum to Apple Corps—the Beatles' recording company—for the worldwide rights to use the "Apple" name on computer products, but not in the music field. In February 1989, Apple Corps sued Apple Computer for marketing products with music synthesizing capabilities. At the time, System 7 was still under development. One of the new features of System 7 was the ability to record your own system beeps in the Sound control panel using a microphone. An engineer had created a sound called Xylophone (described as a staccato E-flat diminished triad sound), which caused Apple's legal department to freak since the name clearly highlighted the Mac's new ability to record music. Jim Reekes, the ultimate authority concerning system beeps, changed the name to Sosumi (pronounced "so sue me") and informed legal that the word was Japanese for "the absence of all musicality."

**A** It's true, some internal SCSI hard disks have the potential for data loss, but the problem is not limited to Quantum's Fireball mechanism. You're at risk with any internal hard disk that has its write cache enabled. The Fireball is just an extremely popular model and was initially deemed the culprit. If you bought an Apple-brand Mac and haven't enabled write cache or installed a new hard disk, you can rest easy.

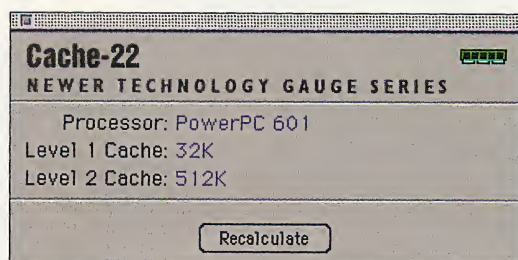
The problem is that some third-party drivers and hard disk utilities incorrectly implement write caches on SCSI hard disks. A write

cache is a small amount of memory (typically around 128 kilobytes) on the drive which improves performance by temporarily holding data before writing to disk. However, when a Power Mac (for some reason, this problem does not

affect 68000-based Macs) is shut down, power may be cut off before the drive has the chance to write the cache data to disk. Important bits of information may be lost, causing data corruption and/or directory damage. External drives with their own power sources are not affected by this problem, nor are drives in Macs that require you to physically press a power switch to complete shut down.

If you have a third-party disk utility such as APS PowerTools or FWB Hard Disk Toolkit, the quick fix is to disable write caching on internal SCSI hard disks (see your user manual for details). Of course, this means forfeiting any performance afforded by write caching, but the increased reliability is worth the reduced speed. With the immediate threat neutralized, call your hard disk utility vendor and ask if they've released an update that addresses this problem. By the time you read this, most vendors should have drivers that allow you to keep write caching without fears of losing data on shut down.

Owen W. Linzmayer (71333.3152@CompuServe.com) is a San Francisco-based freelance writer and the author of "The Mac Bathroom Reader." Please submit technical questions and helpful tips directly via e-mail or c/o MacAddict, 150 North Hill Drive, Brisbane, CA 94005.



Cache-22 is a free utility that displays the type and size of your Power Mac processor and caches.

## Installer Tip

One of my pet peeves is Installer programs that leave me with no other option than to restart the Mac when they're done. I realize that if I install a new extension it won't be available until I restart, but sometimes I don't care. When I'd rather continue working than restart, I press Command-Option-Escape and then click Force Quit. Usually this returns me to the Finder and I can go about my normal business. Worst case: I can't force quit and I must restart anyway.



Force "Installer" to quit?  
Unsaved changes will be lost.

Force Quit Cancel

By force quitting applications, you can regain control of your Mac.



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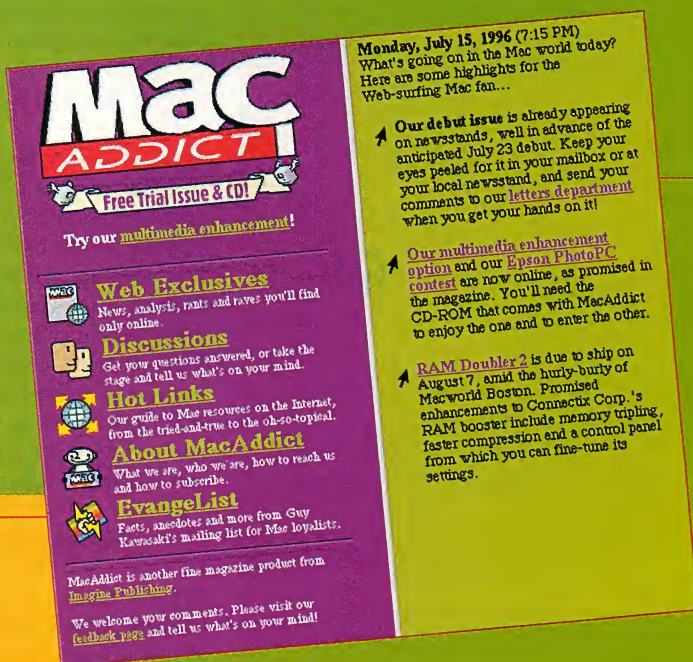
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Can Anark's new twist on artificial intelligence make Galapagos a killer app?

## Teasers

You won't be disappointed by these latest, stunning, fabulous, earth-shaking, glorious, dreamy, captivating, fantastic and groovy games that should be available in August or September.



### Apache

**PUBLISHER:** Interactive Magic

**CONTACT:** 919-461-0722;

<http://www.imagicgames.com>

An award-winning game in its PC incarnation, Apache is a kick-pro-

peller helicopter sim that offers realistic flight in a U.S. Army AH-64 Apache Longbow. You'll be sent on missions spanning over two million miles, from Korea to the Middle East. Apache will test the limits of your Power Mac's power.



### Command & Conquer

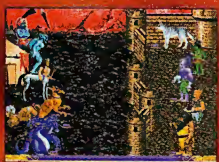
**PUBLISHER:** Westwood Studios

**CONTACT:** 800-874-4607;

<http://www.westwood.com>

Choose to play terror-

ists or the good guys in this addicting war game. You can fool the computer once, but it learns from its mistakes, so you won't trick it twice. Not only that, but you also get to play against friends if the silicon opponent is too easy (ha!).



### Heroes of Might and Magic

**PUBLISHER:** New World

Computing

**CONTACT:** 800-985-7449;

<http://www.nwcomputing.com>

Heroes is not just another in the legendary Might and Magic RPG series. In this super strategy game, you'll need to manage towns while fighting three opponents and settling new territories. On top of that, you have to convince the heroes from Might and Magic to help you in your quest.

It's alive! Or it sure acts like it. "It" is Mendel, an artificial creature that behaves in ways even its creators can't predict. How? Mendel's brain is driven by Complexity theory, a mind-boggling concept only understood by really smart mathematicians.

In most games, once you figure out the computer enemy's pattern, its behavior and the solution can be predicted; whether that's conquering the galaxy or smashing orcs. Yet, if the game were to model reality using Complexity theory, the enemy would become unpredictable, and exponentially more challenging.

Anark is a company pioneering the use of Complexity theory in gaming.

In Galapagos, your task is to get Mendel the hell out of Dodge. You aren't just driving a cute dog around. As you'll find out, Mendel has a mind of his own.

Formed by two brothers, Steve and Scott Collins, and their cousin Justin Ebert, Anark was named, appropriately, after the leader of a revolution. Development Engineer Scott Collins answered our questions about Galapagos.

**MA:** How would you describe Galapagos?

**SC:** Galapagos is really quite like having your dog trapped in a cyber-hell—a Willy Wonka chocolate factory of sorts—where you must help your dog escape by simultaneously figuring out how all of the gizmos in the worlds work and convincing your dog (Mendel) to do all the right things without killing himself. Gameplay ranges from physical puzzles to pure arcade-like, hand-eye excitement. Add an organism that constantly learns from its surroundings, and you've got an element of complete unpredictability that makes gameplay different every time.

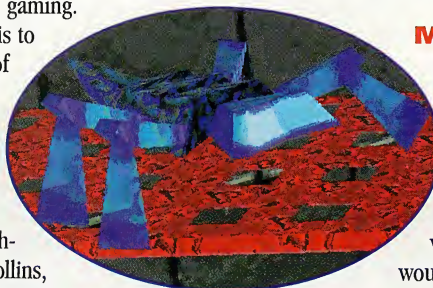
**MA:** Why the name Galapagos?

**SC:** Galapagos is a metaphor for the Galapagos islands, where divisions of water are thought to have yielded bifurcation in the evolution of species. Mendel in Galapagos, then, is a

metaphor for the growth and adaptation of living organisms that hope to escape the tyranny of their current existence. Instead of primitive islands, Galapagos is a series of Escher-like cyberworlds that have quite abnormal physics.

Galapagos constantly changes—you'll never know what to expect next. Mendel presents unpredictability, and so do the worlds. One of the most difficult things about the construction of Galapagos' worlds has been their completely free-form nature. There isn't significant object or object characteristic repetition. You'll develop an intense sympathy for Mendel—people become quite paternal in their behavior.

**MA:** What inspired Mendel's design?



**SC:** Galapagos, the game, is about trying to save Mendel—to help Mendel help himself. We wanted a character you would feel sympathy toward.

But if we made Mendel a dog, you would instantly identify with him; you would impose ideas on him—on what he should or should not do. So we wanted to create something that would feel synthetic and alive but fall between the two. Not mechanical and robot-like, but something you'd think of as synthetic. That way you wouldn't have any preconceptions of Mendel and how he should learn.

**"THE GERBILS I OWNED AS A KID WOULD NEVER MAKE IT OUT OF GALAPAGOS ALIVE, WITH OR WITHOUT MY HELP."**

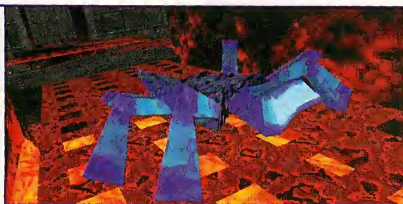
**MA:** How does he learn?

**SC:** Mendel has two types of inputs, infrared and acoustic. These inputs are created as Mendel moves through Galapagos sensing infrared in his environment and hearing the volume of the



## ISN'T MENDEL

**ADORABLE?** If you give into sadistic urges (say, you keep smashing him into walls), Mendel will stop listening to you and behave autistically.

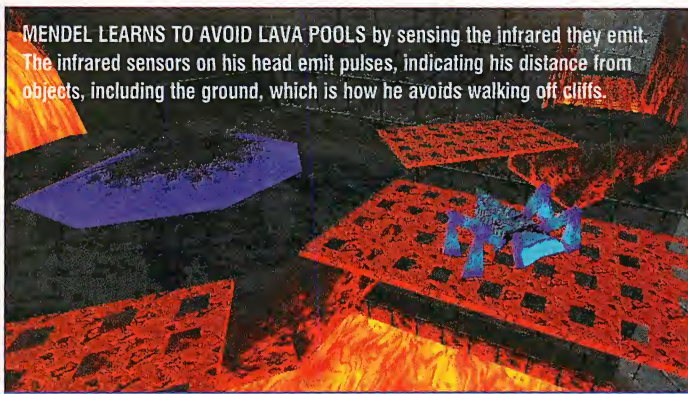


## YOU'D WANT OUT OF

**HERE, TOO!** Galapagos is rendered at frame rates comparable to Marathon—a heftier machine will get you more resolution.



**MENDEL LEARNS TO AVOID LAVA POOLS** by sensing the infrared they emit. The infrared sensors on his head emit pulses, indicating his distance from objects, including the ground, which is how he avoids walking off cliffs.



games

user's voice through a microphone. These inputs are fed into Mendel's NERM controllers. The outputs of these controllers are fed into simulated servo motors that control Mendel's body. Based upon the positions of these servo motors, the positions of each and every polygon in Mendel's body are derived for each rendered frame, yielding very life-like movement and expression.

**MA:** So how "smart" does that make him?

**SC:** Mendel is probably as "smart" as a mouse. On the other hand, I know that the gerbils I owned as a kid would never make it out of Galapagos alive, with or without my help.

**MA:** What are NERM Controllers?

**SC:** When we discuss the mathematics behind NERM, we use an exciting branch of theoretical physics/mathematics known as Complexity theory. [Editor's note: What you're about to read basically describes a scientific rendering of reality that doesn't resort to "in an ideal world" cop-outs.] Complexity theory is a mixture of non-linear dynamic systems (differential equations) and probability theory that is used to build models for seemingly disparate systems. For example, you might use similar language to describe a stock market, the evolution of species, the behavior of celestial bodies, and how mold grows on the bread that is on your refrigerator.

Non-stationary Entropic Reduction Mapping (NERM) is the creation of order out of chaos. The controller begins completely unordered and without form: primordial soup. Over a period of time the controller develops into an order of its own. That's how Mendel expresses order.

**MA:** How do the mappings work?

**SC:** Mappings are connections between inputs and outputs. At first, a NERM mapping looks like noise. The controller will adjust itself to minimize this error. With time it forms mappings: one-to-one mapping or a probability distribution (see "From Fuzz to Patterns").

Here's an example from Galapagos. Mendel has been alive for five hours, which is enough to learn the motor functions necessary to survive.

He's staying out of trouble; not jumping into lava pools or jumping off of cliffs. He's learned how to his control body with input from his two senses: infrared and acoustic.

This doesn't happen in the game, but say you push a button rerouting all infrared sensory information to acoustic—like you were hooking up sight to hearing, and vice versa—seeing sound and hearing sight. Mendel would be completely maladjusted. But Mendel's NERM controllers would completely reorganize so that he would see sight and hear sound again. This is an example of adaptation over time.

**MA:** So how do the NERM controllers make decisions? Say my brain were a NERM controller, and my husband asks where his shoes are. Would I then create a mapping like, 50 percent of the time I give the location of the shoes, 25 percent of the time I say "I dunno," and the other 25 percent of the time I respond "I ate them"?

**SC:** Well, sort of. Your description is an example of a single-solution mapping described by a probability distribution. In addition, NERM could create a second mapping where your husband asked where his shoes were and 45 percent of the time you responded by giving him the location of his shoes, and 55 percent of the time you told him that you didn't like his tie.

Of course, he might then ask you about his tie and you would tell him that it's out of style. However, had you initially responded by giving him the location of his shoes, he might ask you about his tie and you would change the subject by talking about this really cool technology company called Anark. —Kathy Tafel



## FROM FUZZ TO PATTERNS:

The three stages in a NERM controller's learning: when it just begins to learn, a more advanced stage, and a final converged state of development. Notice the order emerging from chaos. Hey look, it's an arc. Get it? Anark!

## more Teasers

### Shadoan

**PUBLISHER:** MacPlay  
**CONTACT:** 800-4MACPLAY;  
<http://www.macplay.com>

Shadoan is an animated adventure that carries you to over 50 mystical locations. Who knows what ancient Egypt has to do with angry Norsemen, but the graphics look scrumptious. The game is G-rated, so don't worry about this title damaging your kids' morality with video game violence.



### Timelapse

**PUBLISHER:** GTE  
Entertainment  
**CONTACT:** 800-483-8632;  
<http://www.lm.gte.com>

We're not sure how challenging a game Timelapse will be, but the images are incredible. Diligently rendered, the models of Anasazi, Egyptian, and Mayan worlds are accurate down to the blades of grass. In fact, if you could understand hieroglyphics, you'd be able to read stories on the walls. Of course, who knows how accurate the Atlantean world is!



### Warcraft II: Tides of Darkness

**PUBLISHER:** Blizzard  
Entertainment  
**CONTACT:** 800-953-7669;  
<http://www.blizzard.com>

Warcraft II: Tides of Darkness promises to be even better than the original, which we deemed "freakin' awesome" last month. Blizzard improved the graphics, paying so much attention to detail that you can see highlights on the tusks of the ogres. Warcraft II also has new campaigns, Internet support, 3D sound, and many more types of armies.





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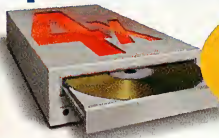
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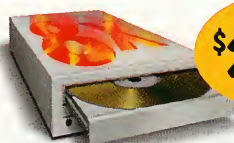
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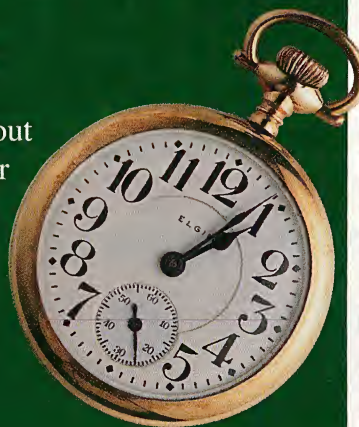
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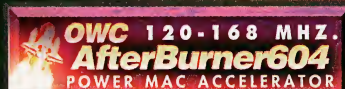
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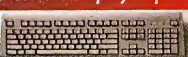
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|------------------------|---------------------|------|
| 5M color               | 10ppm color Laser   | 6999 |
| 5SIMX                  | 24PPM LASER         | 3799 |
| 5M                     | 12ppm 600dpi laser  | 1779 |
| 5MP                    | PS 600DPI Laser     | 979  |
| 4MV                    | 11x17 Laser         | 2699 |
| DeskJet 1600C/INKJET   |                     | 1899 |
| DeskWriter 680C/INKJET |                     | 359  |
| Deskjet 850C INKJET    |                     | 449  |
| Deskjet 855cxi INKJET  |                     | 499  |
| DeskWriter 660C INKJET |                     | 379  |
| DeskWriter 600 INKJET  |                     | 239  |
| EPSON                  | STYLUS PRO II       | 399  |
| EPSON                  | STYLUS COLOR PRO    | 499  |
| EPSON                  | STYLUS COLOR PRO XL | 1699 |

## APPLE Monitors

|                     |            |
|---------------------|------------|
| Apple Ms 14"        | 279/249*   |
| Apple MS 15"        | 369/299*   |
| Apple 1705 17"      | 689        |
| Apple 1710AV / 1710 | 949/879    |
| Apple Multiscan 20" | 1749/1299* |

## SONY Monitors

|                     |          |
|---------------------|----------|
| Sony 15SF2 / 17SF2  | 399/759  |
| Sony 155x/1425      | 429/299  |
| Sony 17SE2 / 20SFII | 949/1649 |

## NEC Monitors

|                 |           |
|-----------------|-----------|
| NEC 15XV+/17XV+ | 489/799   |
| NEC M500 15"    | 549       |
| NEC M700 17"    | 879       |
| NEC 17XE / 17XP | 999/1049  |
| NEC 21XE / 21XP | 1699/1899 |

## PORTRAIT LABS

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| PORTRAIT DISPLAY 1700 .26 | 999 |
| PORTRAIT DISPLAY 1700 .28 | 899 |

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| SUPERMATH 21TXL        | 1199 |
| PRECISION VIEW 17"     | 949  |
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| MULTIVIEW 21"          | 1499 |
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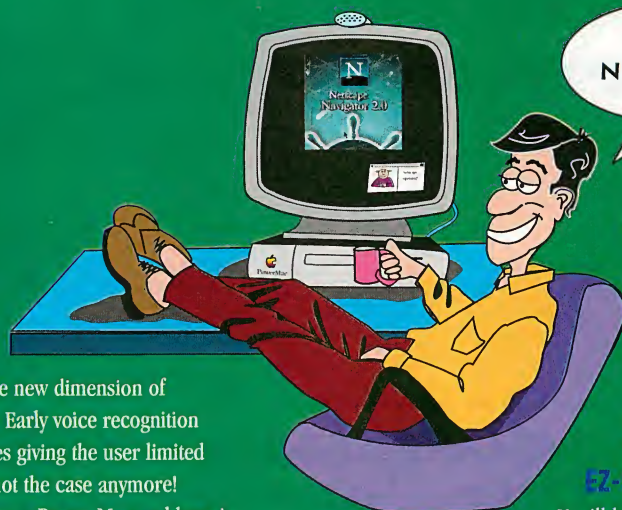
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| S900D 150MHZ CPU 16/0/8XCD      | 2999 |
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| VISTA S6 FULL PHOTO             | 599  |
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| VISTA S12 MAC PRO II            | 829  |
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| POWERLOOK 2000                  | 4699 |

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| "Add Pagebreak"                   | "Find, Replace"                               |
| "Cut, Copy, Paste, Paste Special" | "Spellcheck"                                  |
| "Select All, Clear All"           | "New, Save, Save As, Page Setup, Print, Quit" |
| "New Document"                    |   |

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| "Add New Bookmark"        | "Open File"           |
| "Page Forward, Page Back" | "Select All and Copy" |
| "General Preferences"     | "Stop Loading"        |
| "New Mail Message"        | "Re-load page"        |
| "Print"                   | "Quit Netscape"       |

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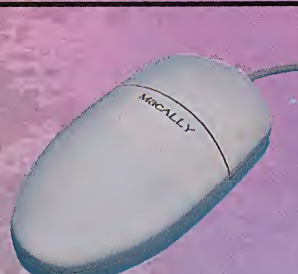
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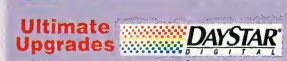


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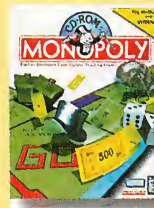
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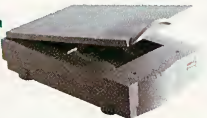
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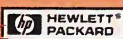
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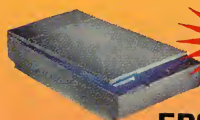
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shutdown

**"Uninstalling Windows Applications"**  
by James McCord  
Yep, an entire book to tell you how to remove programs from Windows.

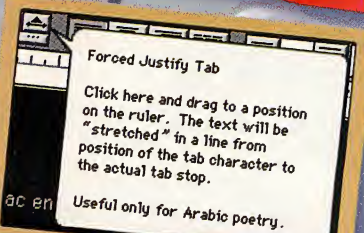


## Freudian Slips

"Internet" doesn't exist in Microsoft Word 6's dictionary—it suggests you use "Interment" in its place and, according to the ClarisWorks spell checker, SOSAPPL is equivalent to CESSPOOL.

## Sounding Off

DISCLAIMER: "I am not responsible for anybody else's lack of taste in sound choice." —Bruce Tomlin, author of SoundMaster



We suspected that Khalil Gibran used Nisus Writer to pen "The Prophet."

## The Bottom Line

"THE GLORY IS NOT IN SELLING THE MACINTOSH; THE GLORY IS IN PROFIT," SAID APPLE'S CHIEF OPERATING OFFICER MARCO LANDI AT THE PC EXPO, JUNE '96, NEW YORK.



**Mega Merger:** Although we harbor the utmost respect for Apple's fearless leader, we couldn't help but notice...

## LET'S ALL RAP ALONG...

"Did I hear right, did I hear you saying, that you're going to make a copy of a game without paying! Come on guys, I thought you knew better! Don't copy, don't copy, don't copy that floppy!" —As Easy-E rolls over in his grave, the amount of illegal software infiltrating the U.S. is down 50 percent from three years ago; thanks, in part, to funky rap songs like this one that have been distributed to schools by the Software Publishers Association.

# Huh?

"When you log into the virtual world, don't check out of the real one. Remember that your keyboards have an escape key, but no truth key," said U.S. Sen. Sam Nunn in a graduation address at the Georgia Institute of Technology. "Remember that technology must empower, not threaten our citizens." And the coming from the ranking Democrat on the Senate Armed Services committee. Hello kettle, it's the pot calling...

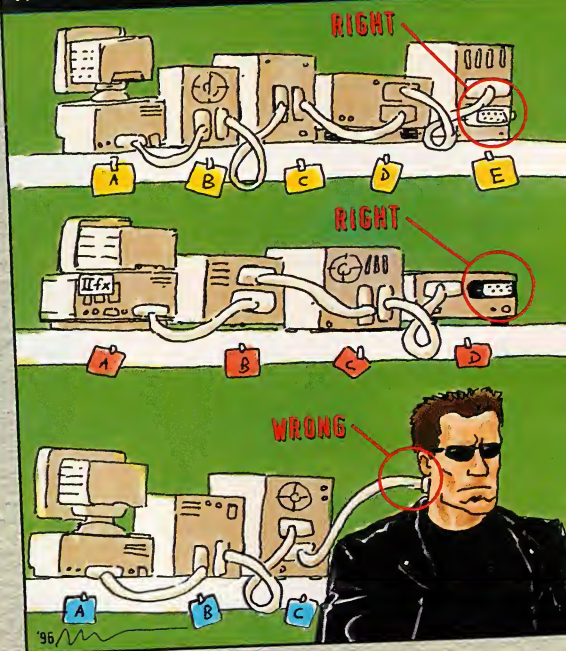
## Overheard:

I work at Long Beach City College in Southern California, and the same phenomenon (thieves targeting Macs) has been occurring here. We've lost 10 or more Power Macs in the last six months, and maybe two Wintels. No difference in security, just "Burglar's Choice."

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"Microsnot is pleased to announce the acquisition of England", a leading country. England will bring many competitive advantages to Microsnot including the world's leading language, some prime real estate, and a strong military." —For more on Microsnot's latest takeover, see their Web page at <http://www.microsnot.com>.

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| 2.1GB Quantum Fireball TM | 5 yr. warr. | <b>\$399</b> |
| 3.2GB Quantum Fireball TM | 4500 rpm    | <b>\$499</b> |
| 4.3GB Quantum Atlas       | 7200 rpm    | <b>\$838</b> |

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\*While supplies last.

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### Tsunami External Drives

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| 2.1GB Quantum Fireball TM | 5 yr. warr. | <b>\$489</b> |
| 3.2GB Quantum Fireball TM | 4500 rpm    | <b>\$589</b> |
| 4.3GB Quantum Atlas       | 7200 rpm    | <b>\$919</b> |

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EZ135

### SyQuest

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| EZFlyer 230MB Drive only                   | <b>\$299</b> |

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- Low cost media for backup.
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- Create your own CD with fast write capability.

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| Syquest SQ400 44MB    | <b>\$38<sup>ea.</sup></b>  | <b>\$37<sup>ea.</sup></b> |
| Syquest SQ800 88MB    | <b>\$42<sup>ea.</sup></b>  | <b>\$41<sup>ea.</sup></b> |
| Syquest SQ2000 200MB  | <b>\$62<sup>ea.</sup></b>  | <b>\$61<sup>ea.</sup></b> |
| Syquest SQ105 105MB   | <b>\$53<sup>ea.</sup></b>  | <b>\$52<sup>ea.</sup></b> |
| Syquest EZ135 135MB   | <b>\$18<sup>ea.</sup></b>  | <b>\$17<sup>ea.</sup></b> |
| Syquest EZFlyer 230MB | <b>\$30<sup>ea.</sup></b>  | <b>\$29<sup>ea.</sup></b> |
| Syquest SQ3270 270MB  | <b>\$48<sup>ea.</sup></b>  | <b>\$47<sup>ea.</sup></b> |
| Optical 128MB         | <b>\$16<sup>ea.</sup></b>  | <b>\$15<sup>ea.</sup></b> |
| Optical 230MB         | <b>\$21<sup>ea.</sup></b>  | <b>\$20<sup>ea.</sup></b> |
| Optical 640MB         | <b>\$49<sup>ea.</sup></b>  | <b>\$48<sup>ea.</sup></b> |
| Optical 1.3GB         | <b>\$59<sup>ea.</sup></b>  | <b>\$58<sup>ea.</sup></b> |
| Optical 2.6GB         | <b>\$85<sup>ea.</sup></b>  | <b>\$84<sup>ea.</sup></b> |
| CD-R 74 650MB         | <b>\$9<sup>ea.</sup></b>   | <b>\$8<sup>ea.</sup></b>  |
| DAT 90m               | <b>\$25<sup>ea.</sup></b>  | <b>\$24<sup>ea.</sup></b> |
| DAT 120m              | <b>\$9<sup>ea.</sup></b>   | <b>\$8<sup>ea.</sup></b>  |
| DAT Cleaning Kit      | <b>\$40<sup>ea.</sup></b>  | <b>\$39<sup>ea.</sup></b> |
| DLT 30 30GB           | <b>\$98<sup>ea.</sup></b>  | <b>\$97<sup>ea.</sup></b> |
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| Silverscanner PRO<br>24 bit color, 300 x 600 dpi<br>interpolated to 1200 dpi.<br>▲ Silverman<br>▲ ScanPrep   | <b>\$599</b>  |
| Silverscanner PRO with Photoshop LE<br>24 bit color, 300 x 600 dpi<br>interpolated up to 1200 dpi.<br>▲ Photoshop LE<br>▲ ScanPrep<br>▲ Silverman                | <b>\$669</b>  |
| Silverscanner DTP<br>30 bit color, 400 x 800 dpi<br>interpolated to 3200 dpi.<br>▲ Silverman<br>▲ ScanPrep   | <b>\$799</b>  |
| Silverscanner DTP with Photoshop LE<br>30 bit color, 400 x 800 dpi<br>interpolated up to 3200 dpi.<br>▲ Photoshop LE<br>▲ ScanPrep<br>▲ Silverman                | <b>\$889</b>  |
| Silverscanner III<br>30 bit color, 600 x 1200 dpi<br>interpolated up to 4800 dpi.<br>▲ Silverman<br>▲ ScanPrep   | <b>\$1499</b> |
| Silverscanner III with Photoshop Full<br>30 bit color, 600 x 1200 dpi<br>interpolated up to 4800 dpi.<br>▲ Photoshop (Full Edition)<br>▲ ScanPrep<br>▲ Silverman | <b>\$1659</b> |
| Sheet Feeder Adapter (HP and HP)   | <b>\$499</b>  |
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